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AMERICAN BEE JOURNAL

JUNE 1939

PASTURE IMPROVEMENT AND THE BEEKEEPER —D. B. JOHNSTONE-WALLACE

PRODUCING EXTRACTED HONEY—E. M. COLE

COMMERCIAL BEEKEEPING IN ENGLAND—A. W. GALE

BEE PASTURES IN OKLAHOMA —J. M. GOIN

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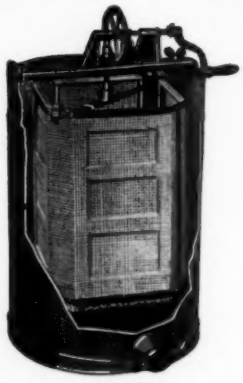

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AMERICAN BEE JOURNAL

The Oldest Bee Journal in the English Language

ESTABLISHED BY SAMUEL WAGNER IN 1861

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PLANNING AHEAD

WHEN the bees are snug in their packings and it's frosty outside, the beekeeper sits by his fireside in the evening and makes plans for the next year. He visions his production plans and includes enough equipment made ready to get all the crop as it comes in. If he is a wise man he may include some section comb honey to be produced in 1939.

It seems a simple matter to sit down and write out an order for 500 or 5,000 sections, but to fill that order required a vast amount of planning. The basswood had to be ordered the summer before, cut in the North woods while the sap was out and snow on the ground. The lumber had to be air-dried for months since last summer to make sections for 1939. Below we show an outfit snaking logs out of the North woods in winter. Many logs like this have now become your 1939 Lewis section honey boxes. It's so easy to sell section honey. Produce some in 1939 with Lewis sections and Dadant's thin super foundation.

Above is shown the home of Lewis Beeware at Watertown getting your supplies ready.

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American Bee Journal

Vol. LXXIX—No. 6 Hamilton, Illinois, June, 1939 Monthly, $1.00 a year

Improving the National Census on Bees

IT appears that the contention of beekeepers that the Bureau of Census figures issued periodically on bees and honey are inaccurate and should be revised is to be sustained. In former censuses the figures on bees and honey production were taken from farms only, with no consideration of bees in cities or bees on farms where the owner and operator lived elsewhere. The census committee now recommend for the farm schedule:

(1) bees owned by others but kept on this farm;

(2) owned by you on this farm and on non-farm land, such as desert, hills, swamps, etc.;

(3) honey produced by your bees in 1939.

In addition, the committee recommends that an agricultural schedule be used in cities, towns, and villages, in which questions of hives of bees owned and honey produced will be included,

This is exactly what is needed. The recommendations have been drawn up by the crop reporting board. It is now up to states, persons, associations, and others interested to inform W. L. Austin, Director of the Bureau of the Census, Washington, D. C., that they want this new agricultural town census approved and included. Thus, it would be possible to account for every colony of bees in the United States.

Additional funds will be needed to conduct such a town census, and we should all prevail on our congressmen and senators to appear before the census committee, in the House, and the committee on commerce, in the Senate, in behalf of this plan. Beekeeping associations in particular, representing groups of beekeepers should urge such approval; otherwise, the matter will slip by as before, in obeyance for another ten years.

—ABJ—

Standardization

J. E. ECKERT, in his article, "The Beekeeper Has a Friend in Court," raises an issue which surely should have the attention of the American Honey Producers League, at their meeting in California in the fall. So far, the losses incurred by beekeepers through indiscriminate airplane dusting have been segregated in a few localities, or else the beekeepers affected have not been vociferous in voicing their complaints. But as time passes, such practices are likely to become general; and that representative organization should be in a position to present the beekeepers' side of the case and to recommend procedure in combatting unfair legislation.

Mr. Eckert's remarks about standardization of honey echo the

"Flore Melifere," by E. Alphandery, was first published in 1935. It is sufficiently interesting to American students of honey flora to give a short account of it at this late date. France, Switzerland, and Belgium are covered by the author's honey plant researches which include the value of bees in pollination, methods of pollination, composition of nectaries of various plants, and plant family characteristics. One section of the book is devoted to honey plants, arranged in alphabetical order, their value to bees as minor and major sources for honey production.

Alphandery is the editor of the French beekeeping magazine, "La Gazette Apicole," and a number of beekeeping books. To anyone wishing to add to his honey plant library "Flore Melifere" will be invaluable.

The book is paper bound octavo, contains 340 pages and 258 illustrations. The price twenty-eight francs, and copies may be had from the publisher, J. B. Bailliere et Fils, 19 Rue Hautefeuille, Paris.

♦

In the Seed World, December 16, Joseph F. Cox, in "The 1939 Farm Program," an address for the meeting of the Western Seedsmen's Association in Kansas City, reports the use of more grasses and legumes. We quote, as follows:

"From the standpoint of soil conservation, a remarkable effort has been made since 1932 in increasing grasses and legumes, and in encouraging soil conserving practices. In 1933 thirty-six million acres were taken out of corn, wheat, cotton and tobacco; in 1934 thirty-five million acres; in 1935 about thirty-four million acres.

"Under the old program, the acreage taken out was known as the "contracted acreage" and though awards were not based on the use of the contracted acreage, farmers were encouraged by the administration to plant this vast amount, greater than all the farm land in Illinois, to new seedings of grass and legumes, to emergency forage crops to meet the drought, and for terracing, farm wood lots and other soil conserving purposes."

A preliminary report by H. R. Tolley, of the Program Planning

Division, shows that there was a great increase in lime and fertilizer applications. The use of lime for agricultural purposes reached almost eight million tons in 1937, an increase of 500 per cent over the amount used in 1932.

As beekeepers, we all know that the increase in grasses and legumes has spread the growing of sweet clover, which has been allowed to reach the bloom period over great acreages throughout the Middle West, and has brought much added increase in available bee pasturage in the clover states.

♦

"The Garden of Larkspurs" is the title of the latest in a series of volumes by Dr. L. H. Bailey devoted to special groups of garden plants. Other in the series are "Garden of Pinks" and the "The Garden of Gourds." Whether you know them as larkspur or as delphinium you are likely to be an admirer of these graden favorites. Dr. Bailey says, "It has been a season of larkspurs, and I have lived again the joys I have had in growing them for more years than I can remember."

The blues of the larkspurs are a haunting memory of old homesteads, long sturdy rows by fences, of clumps persisting in grass. They belong with habitations of poor and rich alike, a common denominator of good will."

So many of late have taken up some one group of plants with which to specialize that books of this kind become very helpful to present day gardeners. If you like the delphinium you will find here just what you want to know regarding the more than 100 supposed species, their origin, their diseases and the insects that trouble them. The large pages, clear print and numerous illustrations make the book easy to read. The extent of its information makes it interesting to every garden lover and indispensable to one who makes this group a specialty. "The Garden of Larkspurs" is published by the Macmillan Company, of New York City, and copies may be had from them for three dollars each.

♦

Noon, March 13—one colony of a twenty-two colony yard was reported by Kirlin to be gathering pollen. No other colony in the yard at that time was gathering pollen. Later on, at two o'clock in the afternoon, they were all gathering pollen. Is this particularly active colony a strain from which to breed?

After all, straws of this kind are all we have to select in many of the things which altogether make up a breeding program.

complaint of many large sellers this year, with particular reference to the loss of some of the bakery trade because of the fact that the baker-buyer, being unacquainted with honey generally, too often buys on price and gets honey which does not suit his requirements. Standardization with reference to bees for pollination recently came to the writer's attention. The orchardist may get the services of a full colony of bees or only a two-frame nucleus. He cannot rely on obtaining a standard size or quality colony to pollinate his fruit bloom. The Yakima Valley (Washington) beekeepers have recognized this and have a gentlemen's agreement on colony sizes furnished for pollination and relative charges for each. But in Michigan, a comparable fruit state, more or less chaos exists. Standardizaton is needed here, also.

—ABJ—

The Mail Order Queen

THE lot of the queen breeder is far from an easy one. In addition to all the hazards of rearing his queens he still has the greater problem of safe delivery. Most of his sales are to customers at a great distance and often they are inexperienced and unprepared to introduce the queens under favorable conditions.

Perhaps the greatest risks are involved in the long journey by mail. A young queen which has been laying, is removed from her colony and confined with a few attendants in a small cage. This is placed in a mail bag along with a variety of articles which may carry objectionable foreign odors. During the journey the bag is roughly handled and often is thrown from mail car to truck or subjected to extremes of heat or cold.

There is little wonder that queens after being subjected to such treatment sometimes fail to perform in a satisfactory manner after delivery. Often there is some injury from rough handling or they may have acquired odors which lead the bees to make a prompt supersedure even though the queen be accepted.

The question arises as to how far the breeder should be required to go in accepting responsibility for all these accidents which are beyond his control. If he is to assume all the risk he should have compensation in the form of higher price to cover the insurance.

It is a common occurrence for the most careful breeder to send out stock of the best quality which he is able to produce and then receive unfavorable reports from his customers. The customer is not to be blamed for disappointment when the newly purchased queens fail to make a good showing, but he should bear in mind all the hazards to which they have been exposed and not blame the breeder for damage beyond his control.

Most queen breeders suffer losses beyond their own responsibility rather than argue with the customer and there are occasional cases when they are imposed upon. Usually, however, the buyer has reason for disappointment even though the shipper is not to blame.

It seems impossible to set up rules to govern such cases and to place a definite limit for the shipper's responsibility. Each case must be settled on its merits and must depend upon the good sense of both buyer and seller.

It would seem that where queens are to be shipped by mail, a

small addition to the price might well be made to cover insurance. This would entitle the buyer to replacement of any queen not fully satisfactory from any cause and at the same time protect the shipper against loss.

—ABJ—

The Zofka Red Clover

BECAUSE of the long discussion of the possibility of a red clover with short flower tube, there was great interest when it was learned that Dr. Joseph Zofka had been able to develop such a plant. Two years ago the American Bee Journal imported a small amount of seed directly from Dr. Zofka for planting in our test plots at the Pellett Gardens, Atlantic, Iowa, where our field editor has been spending his summers with a co-operative experiment in disease resistance.

The new clover has been so promising that hopes ran high that at last a red clover had been found which is suited to the needs of the honeybee. The growth was vigorous, honeybees sought the flowers freely and seed was set abundantly. It appeared to be the long sought honeybee red clover.

American agronomists, however, were doubtful whether this plant would prove sufficiently hardy because of its European origin. The past winter has proved too severe for the Zofka red clover, but in this neighborhood nearly all other red clover and some alsike were winter killed.

Our test plot was increased to more than an acre by means of seed grown the first season. This gave opportunity for a field test under conditions such as any farm crop must face. The new planting made a good growth last summer in spite of the fact that the young plants had to contend with weeds and some dry weather and the little field looked very promising at the end of the season.

It was the winter which brought disaster to all our hopes. It was not extremely cold, but frequent freezing and thawing offers the real test of the clovers. Neither the Zofka nor other red clovers in the community were equal to that kind of winter and the spring of 1939 finds us back where we started. The entire field has been killed out almost completely and we have only sufficient seed for a plot much smaller than our first one. Since the common red clover was also killed, we are unable to judge whether the Zofka would stand winters such as red clovers generally survive.

The red clover problem still remains to be solved.

—ABJ—

Protect The Public

AT this season when so many bees are being moved and when new apiary sites are selected we would repeat the caution to do everything possible to avoid annoyance to others. Be sure the hives are tight before bees are moved where the public is in danger, and be extremely careful in placing the hives to make sure they are away from frequented paths. Here we may be very sure that prevention is better than cure. Most people are very much afraid of stings and disagreeable consequences often follow such an accident.

A subscriber writes us that he has been advised by a comb foundation manufacturer to bill his beeswax as "Beeswax Refuse" in order to take advantage of the fourth-class rate on beeswax refuse.

Because members of the American Bee Journal staff were influential in getting a lower classification on both beeswax and beeswax refuse, we felt sure that the above advice was wrong. We wrote to the Western Classification Committee of Chicago, Illinois as to their interpretation of the term "Beeswax Refuse" and the following is their reply.

> "Beeswax Refuse consists of old bee combs and other material from which beeswax is rendered. The yield is anywhere from 5 per cent to 30 per cent, and the value is about 25 per cent of the ordinary beeswax. We understand that this refuse is purchased on the basis of the amount of beeswax that it will yield. The quality of the beeswax secured from this refuse is below the average and usually brings the lowest prices quoted on beeswax.
>
> "Crude Beeswax is not Beeswax Refuse. The entry in the Classification for Beeswax is unqualified as to whether it is crude or refined, and applies on either or both."

It is, therefore, a mistake to ship beeswax as "Beeswax Refuse." When filing a claim, in the event of loss or damage in transit, there might be danger of not being able to recover the full value of the beeswax shipped. There is also a severe penalty for misrepresenting an article when billing it at a lower classification in order to save transportation charges.

Beeswax Refuse takes fourth-class rate. Beeswax in the Official and Illinois Freight Association takes 77½ per cent of first-class rate. In western trunklines, southern and southwestern territory, the rate is 75 per cent of the first class. These ratings on beeswax are carried in "exceptions to the classification." Better bill your shipment of beeswax as "Beeswax" and only shipments of old combs, cappings and slumgum as "Beeswax Refuse."

◆

Clark Fulton, for many years a beekeeper and Santa Fe freight engineer, was killed instantly beneath the wheels of his locomotive, according to a newspaper notice forwarded by A. V. Small, of Kansas. No date is given.

Mr. Fulton was greatly interested in beekeeping and was president of the Arkansas Valley Beekeepers' Association. At the time of his death Mr. Fulton was only 53 years old.

Pasture Improvement and The Beekeeper

By D. B. Johnstone-Wallace,

Assistant Professor of Agrostology,

Cornell University.

IN the dairying districts of the northeastern states increased attention is being paid to the problems of pasture improvement. The developments which are taking place are of considerable interest to the beekeeper, for many pastures which, until recently, consisted mainly of redtop, poverty grass and devil's paintbrush, characteristic of poor pastures in the northeastern states, are now covered with a carpet of Kentucky bluegrass and wild white clover. Such pastures not only provide more feed for stock than they did previously, but they also provide a greatly increased yield of honey.

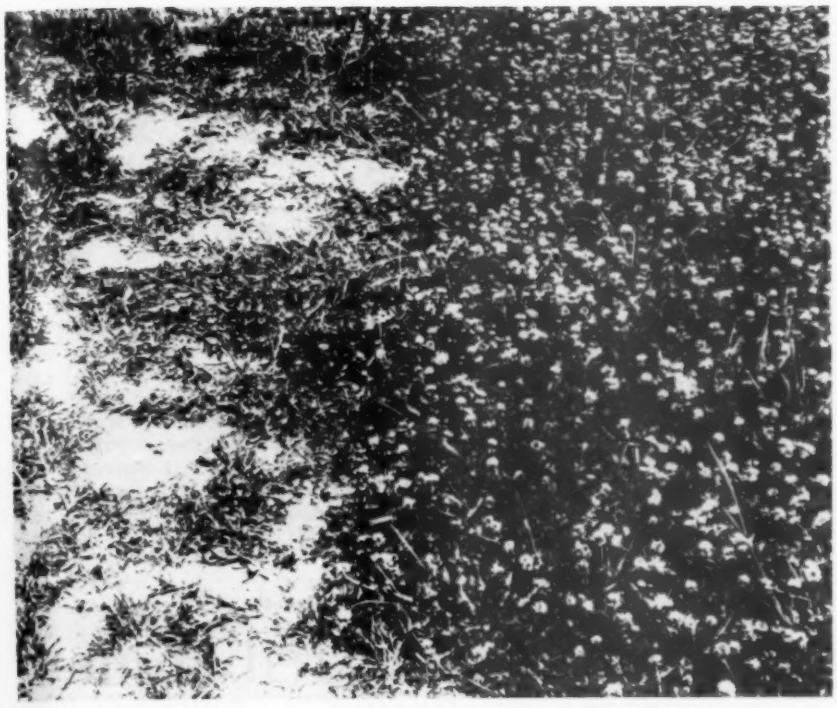
In some sections of New York State another valuable honey plant is playing an important part in pasture improvement. It is known as wild bird's-foot trefoil.

The pasture improvement program now widely adopted in New York State aims at the development of productive pastures by the encouragement of perennial pasture legumes thrcugh heavy fertilization with superphosphate accompanied when necessary by lime and potash. Grazing management is equally as important as the fertilizer treatment as wild white clover can only be maintained in the sward if the pastures are periodically closely grazed.

New York wild bird's-foot trefoil. A portion of a field of bird's-foot trefoil growing in Albany County, New York.

Beef cattle pasture, Cornell University, Ithaca, New York. A dense sward of wild white clover in June, 1938 produced by treatment with superphosphate and periodical close grazing.

Legumes are of great importance in pasture improvement because they are highly productive, palatable and nutritious, and also because an enormous amount of nitrogen is required to produce the protein which is removed from highly productive pastures in the course of a grazing season. Some idea of the amount of nitrogen involved can be gained from experiments at Cornell University which show that improved pastures are yielding annually from 4000 to 6000 pounds of dry matter per acre with an average protein content of more than 30 per cent and that the nitrogen in this herbage is equivalent to that present in from 1000 to 1500



Caldwell field pasture experiments, Cornell University. Left, untreated. Right, treated with 800 pounds 16 per cent superphosphate and 2000 pounds ground limestone per acre without plowing or seeding—showing development of wild white clover.

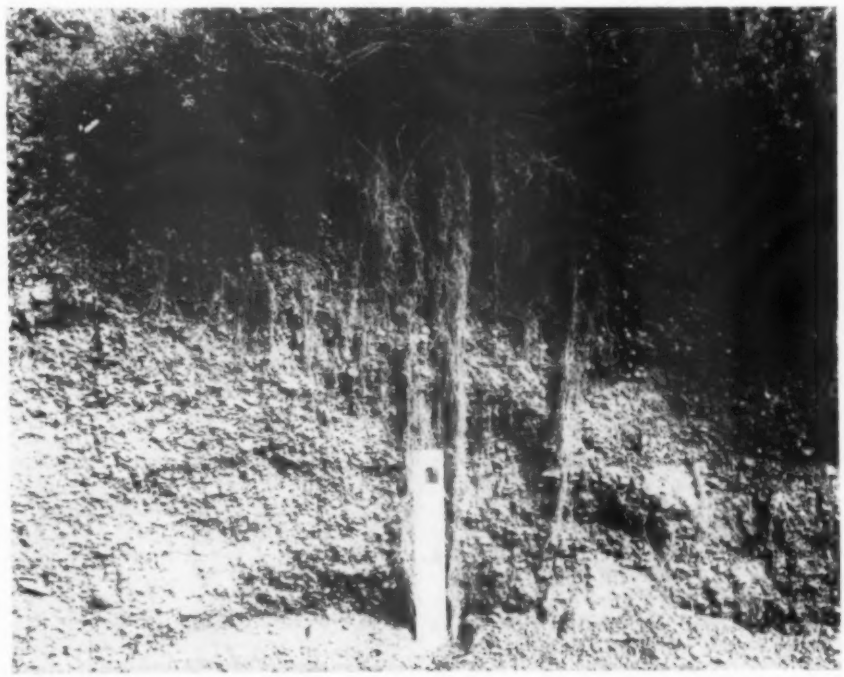
pounds of sulphate of ammonia. This is obtained from the air by the bacteria present in the root nodules of the legumes.

It is evident that legumes are of tremendous importance in pasture improvement. Unfortunately few legumes behave as true perennials and remain permanently in the pasture sward under grazing conditions. In New York State there are only two; these are wild white clover and wild bird's-foot trefoil both of which deserve attention from the beekeeper as well as from the farmer.

Wild white clover **(Trifolium repens var,)** is a wild form of the commonly cultivated white Dutch clover. It occurs in most pastures in the northeastern states and it differs from white Dutch clover by possessing smaller leaves and flowers and by flowering later. For practical purposes, however, the difference of greatest importance lies in its ability to survive permanently in the pasture sward as a true perennial whereas plants produced from seed of commerical white Dutch clover, like red clover, seldom survive more than two years.

The ability of wild white clover to spread by means of creeping stems which travel over the surface of the ground and tape root at the nodes, is responsible for the way in which fertilizer treatment and good grazing management can completely change the botanical composition of a pasture. Pastures which before fertilizer treatment contain an average of one very small plant of wild white clover to the square yard, can become an almost solid carpet of it in a single grazing season when favorable conditions for growth are provided. In some pastures where this clover is not present, or where it is extremely scarce, the sowing of one pound of seed per acre, on the surface in early April, is desirable. In other fields it may be necessary to plow, fertilize and reseed with a seed mixture, such as the Cornell Pasture Mixture, which contains wild white clover. Several strains of wild white clover are available including New York wild white clover, English Kent wild white clover and New Zealand wild white clover.

New York wild bird's-foot trefoil **(Lotus corniculatus var.)**, the other perennial pasture legume in New York State, also deserves attention from the beekeeper. It is a comparatively new discovery as it was first observed by the writer in a pasture near Claverack in Columbia County, New York, during a pasture survey made in 1934. Investigations showed that many of the pastures contained this legume and that it frequently contributed more than 50 per cent of the herbage. Since then it has been found growing in extensive areas in Albany, Schenectady, Schoharie, Ulster, Montgomery, Saratoga and Washington counties. Bird's-foot trefoil possesses bright yellow or orange flowers somewhat similar to a small sweet pea. Commonly five of these flowers are borne on one stalk and the long slender seed pods produced present the appearance of a bird's foot, from which the plant derives its name. Like all of the valuable pasture plants of the northeastern states it is not a true native and it probably reached this country in hayloft seeds brought by settlers, although investigations indicate that it has been introduced into the state during the last century.



Root system of New York wild bird's-foot trefoil. Bird's-foot trefoil growing at the edge of a gravel pit in Albany County, New York, showing root system penetrating to a depth of more than three feet.

It is a common constituent of pastures in northern Europe and it is frequently used in seed mixtures for hay and pastures in France, Germany, Switzerland, Russia and other European countries. The variety found growing wild in New York State, however, differs considerably from the European cultivated variety. It is much more procumbent in habit of growth and this makes it better adapted for pasture conditions, while at the same time it is more winter hardy and more productive.

In comparison with wild white clover it is slower in establishing itself and it does not spread in the same way, but it possesses the advantage of greater drought resistance because of its deep root system. During a period of severe drought at Cornell University last July a mixture of New York wild bird's foot trefoil and Kentucky bluegrass yielded more than three times as much as a mixture of wild white clover and Kentucky bluegrass. Although bird's-foot trefoil responds to fertilizer treatment, it is more tolerant of conditions of low fertility and acidity than is wild white clover. It is also able to take possession of abandoned land and control erosion on roadside embankments.

Progress is being made in New York State in the growing of seed of New York wild white clover, Kent wild white clover and New York wild bird's-foot trefoil, and limited commercial supplies are available. It is on farms where seed is grown that cooperation between the beekeeper and the seed grower is mutually advantageous as the yield of seed may be increased considerably by placing hives of bees in the fields.

Little is known concerning the adaptability of New York wild bird's-foot trefoil for the conditions prevailing in states other than New York. Its deep root system, however, should make it well adapted for the dryer sections further west, provided it is possible to get the seedlings established. Its natural distribution is undoubtedly restricted by its inoculation needs. Nodules are only produced when the seed is inoculated with the special type of culture required. This culture is not yet obtainable commercially, but supplies are prepared by the Department of Agronomy at Cornell University and are obtainable by those who wish to experiment with bird's-foot trefoil.

—ABJ—

The Backlotter Produces Extracted Honey

By E. M. Cole,

Iowa.

IN the production of extracted honey, the backlot beekeeper, the owner of moderate-sized apiaries, might well give up hope of producing a fancy table honey when he reads of the equipment supposed to be necessary; the complicated filtering and straining devices, the machine for stirring honey in the tank, the gooseneck for filling bottles,etc., altogether requiring a lot of floor space and a pretty large outlay of capital. That is, large for the small beekeeper.

I believe I can tell you how to produce a fancy honey for your home trade with only the equipment you now have, or can provide at a very modest outlay. I came across the principal point in this method by accident.

To go back a few years, until seven or eight years ago my crop consisted almost entirely of white clover honey, and once in eight or ten, a heavy crop of fall honey. This honey could be extracted, let stand four or five days in the tank in a warm room, and when pailed or bottled was a fine clear product. That part of the crop held until winter crystallized and when melted was still a fine article.

Then came my first crop of sweet clover honey, all sweet clover, as white clover that year failed completely. I handled this crop just as I had previous crops, and it certainly seemed a fancy article when first put in pails and bottles, in fact, finer in appearance than white clover honey.

Sweet clover honey crystallizes early in the fall and along in November this honey, when melted, began to show some foam on top and as the season progressed, the foam became worse, in fact, it seemed more like a slime than ordinary air bubbles. There was nothing to do but skim this off. Just try skimming the foam off 1500 pails of honey and lots of bottles. It almost made me wish I had never seen a bee.

Instead of putting my entire crop in retail packages and melting as needed, I was compelled to store it in 60 pound cans, then melt, fill a tank with it and allow the foam to rise, then package. In an ordinary room in zero weather it is difficult to keep it warm enough to clear well.

You may have read that honey stored at a temperature below 52 degrees Fahrenheit will not ferment, but it most certainly will. This honey was stored in a cold room, freezing weather outside meant freezing in this room, and zero outside was zero inside, with every month showing an increase in the amount of scum on the honey.

In 1934 it seemed we would have a bumper crop of white clover honey in addition to a flow from sweet clover, but 1934 gave us one of the hottest and driest years ever known, killing the white clover before it had a chance to bloom. Nevertheless, sweet clover came on and gave us a fine crop of honey, so thick it was difficult to extract and still more difficult to strain.

In straining I used a box with a wire screen bottom, ¼ inch mesh covered with four thicknesses of cheesecloth, and it would hardly go through, delaying me until I could get little extracting done. So I decided to warm up this honey.

I had a tank 17 inches by 24 inches and 9 inches deep used in melting pail honey, and an oil stove. My only added expense was four 60-pound cans, cutting one side out of these and using them for pans. The next year I added two more pans and a thermometer.

This tank was filled about half full of water, a couple of half inch sticks put in for the pans to rest on, then the pans with 30 or 35 pounds of honey were heated in this tank. I do not know how hot I got this honey. It was taken off as soon as it seemed thin enough to strain quickly.

Part of this honey was strained cold, and when canned and pailed was kept separate from the heated honey in order to dispose of it first, as it would be first to crystallize.

When I came to melt this honey which had been heated I had a pleasant surprise; it was very slow to crystallize, some remaining quite liquid until late in the winter, but

best of all, hardly a trace of scum, as fine and clear as any I ever had. One more point, it liquefied in a very short time.

I have used this method for five seasons with great satisfaction, handling alone from four to six tons of honey with an equipment of a two-frame extractor, three honey tanks with a total capacity of 1500 pounds, a four-burner oil stove, an uncapping tank and a small tank holding two pans of honey.

I intended to say this honey was usually allowed to stand four days in the tanks before drawing off, and longer if possible, a point I found very important. Honey drawn off soon after putting in the tank never has the clear, sparkling appearance of honey standing four days or more before drawing. This was of course in the heat of summer and the room closed tight at night to retain the heat.

Don't you believe for a minute that you must bottle honey while hot, and with the use of a gooseneck, in order to get a fine article. I have bottled and pailed tons and tons of honey from the ordinary honey gate, only filling them as much as possible in the middle of the day and avoiding cool and rainy days.

Last season my son and I put up over 21,000 pounds of honey with this small outfit, he doing most of the work. This was too much, so this year we will add one more storage tank and one more tank for heating and a four-frame extractor. The extractor, honey tanks and oil stove are placed as convenient as possible, and heating the honey goes on continuously with extracting, the one extracting stepping over occasionally to stir the honey and take a look at the thermometer. We have been heating to about 132 degrees F.

Here are a few pointers I would like to give you. Fill the pans of honey you are heating about two-thirds full, but let the water in the tank come only within an inch or two of the honey level, for as the honey heats it will rise to the top away from the water and be less likely to overheat. Also occasional stirring will hasten the heating as the honey circulates slowly at first.

The crumbs of wax in the honey will often soften from the heat and stick to the strainer cloth much worse than when straining cold honey, so cloth must be changed oftener.

In all your honey tanks use a circular board about 1 inch smaller than the diameter of the tank. Make it of thin lumber and give it a good coating of paraffin; as the honey comes through the strainer it drops on this float and rolls gently over the edge instead of carrying air bubbles and refuse that might work through the strainer cloth down into the honey. Your honey will clear quicker.

In order to put out a fine, clear, light colored honey avoid as much as possible extracting from brood combs. I used them for many years under the impression it made no difference in the quality of the honey, but gradually doubts arose. Fill the cells of an old, dark comb with water, let stand 24 hours, then shake out and you will find the water a fine, dark coffee color. Using warm water will make it still darker. Uncap some white combs, allow the cappings to drain, then uncap a few dark brood combs and allow these to drain on top of the other and you will see what I mean. It will be distinctly darker, and a considerable proportion of these dark combs will affect the color of your crop.

Heat will make this worse for this reason: In uncapping dark combs many shreds of cocoons and some pollen will be thrown out with the honey. When you heat the honey you will draw out much more color than when straining and packing cold honey. In addition, these shreds of cocoons and pollen grains seem to work through the strainer cloth more than bits of wax do, and are slower to rise to the top. It is hardly practical to avoid entirely the use of brood combs in the super but it should be kept down to the lowest possible amount.

The coming season I hope to avoid heating honey containing wax particles and other refuse by straining cold into a tank and drawing off from the bottom for heating. Heating honey to the degree we use does not prevent crystallization but delays it and seems to effectually kill the ferment causing foaming, but it is all right for the home market where honey left for sale may be taken up and re-melted if necessary. I loosen the lids on pails when melting and remove from the heat as soon as thoroughly liquefied. These extra heatings do not seem to affect the color in the least.

I mentioned using a float in each tank. This float serves another purpose than the one I mentioned before. When ready to draw a tank of honey, lift this float off. You will find sticking to the underside of it about 95% of the scum and refuse that has worked through the strainer cloth.

Do not draw into pails or bottles within three or four inches of the bottom of the tank. The three or four inches left should be drawn into your pans and re-heated enough to strain easily and it is better to set this aside and put back into the tank when partly filled.

By removing the float before drawing off, your tank will not have a thick coat of slime and beeswax refuse on the bottom or mixed through the honey you re-strain. Do not worry about air bubbles in your honey. They do not much resemble the foam that rises on sweet clover honey that has not been heated before it crystallized. This foam does not break when touched as air bubbles do. Turn over a pail of honey slowly and it sticks in a thick layer to the lid of the pail. The handling and tipping a pail or jar gets from the tank to the customers will dispose of nearly all, and often all, of these air bubbles, and if a few are left they are not at all unsightly.

I write this partly to persuade you not to overheat your honey. Here are instructions I have just read: "Heat honey to 130 degrees F, hold at that temperature two hours, raise rapidly to 160 degrees F and bottle while hot." This might be necessary if you send your honey a long way from home and expect it to hold a year or two before showing crystallization. That may be what causes some of the honey I see on sale to resemble a rather dark syrup. From that degree of heat, plus the dark shreds of cocoon and pollen, this highly heated honey may have drawn added color.

Such honey cannot compete in your home market with honey handled in the simple manner I have tried to outline, the main points of which are: Heat to 130 or 135 degrees F, strain through four thicknesses cheesecloth (I use eight if extracting from a large per cent of brood combs), hold in the tank four days or more, and cool, fall weather heat the room with a stove if possible, as honey clears much quicker at 90 degrees, or as near as you can get it.

If this gets by the editor, I may tell you how to build a home market for your honey.

—ABJ—

Average Goodrich Male Employee Forty Years Old

This is a release from our good friends, the Goodrich Tire Company, of Akron, Ohio, who worked for our interest generously, with National broadcast on honey and bees:

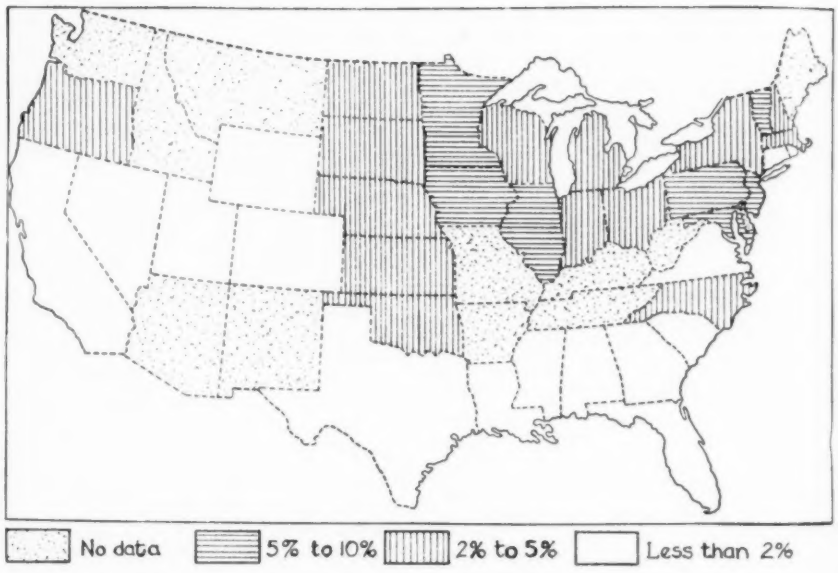
"If a composite picture of the male employee in the Akron plant of the Goodrich Company were drawn, it would show that the average employee would be forty years old, with eleven years' continuous employment, would have a wife and two children. Sixty per cent of the employees would own their own home or be paying for one. More than half, men and women included, have been with the company longer than ten years. Employees with twenty or more years of service on the active Akron pay rolls of the Goodrich Company have served a total of 47,174 years."

Disease Eradication Work In the United States

By M. G. Dadant,

Illinois.

WHAT progress has been made in the eradication of American foulbrood in the United States, and what difficulties lie in the way of eventual complete eradication? These questions are asked every day and are answered in part by the reports of the various states on their 1938 work which are here summarized. The accompanying map, drawn from the reports, will give a fair idea of the present status of disease work.



In most of the states there has been a marked improvement in disease conditions, probably because of the untiring and honest work of the chief inspectors and their assistants, backed by groups of beekeepers who have pressed for sufficient appropriations for the work. The main obstacle always has been—and probably always will be—lack of funds. Some states, like California, Michigan and Ohio, as well as others, have partly relieved the difficulty by securing county appropriations to complement funds to be spent by the state. Yet we find continually good work which has been done being largely undone by a too penurious legislature, which thinks to economize by cutting such funds periodically. As a result of this legislative vigilance, the disease gets a new foothold, and the fine work has to be started all over again. Nebraska, for instance, has come far on the road of diminishing infection, only to be faced by a dwindling inspection fund and a return to more or less chaotic conditions.

Naturally, progress is slowest in eradication work where population is thickest and best where the beekeeping is in more restricted areas and where the investment is greatest through commercial interest and investment; so we find the western and southern areas in relatively the best condition. The South is aided, perhaps, by its climate, which may be a deterrent to a rapid spread of the disease. Our map may not be a true picture of conditions; for it is likely that Arizona and New Mexico could come near to qualifying in the 2 per cent class, although New Mexico seems to have interested herself little in inspection work in late years.

In the northwest American foulbrood evidently is not considered a serious menace; or it may be that the interested beekeepers are not sufficiently organized to make their wants known and to get results.

The plains states are apparently making splendid progress toward the two per cent class. Minnesota, Iowa, Illinois, and Pennsylvania, while they do not show much progress over the past ten years, are relatively better than indicated, since the heaviest work has been done in areas of greatest infection. The continuous drive in such states as Wisconsin, Michigan, Ohio, Indiana, and New York is having its effect.

Even the best inspector is bound to be restricted by his neighbors' lack of effort. Shipped honey will transmit the disease, and the heavy movement of bees and equipment seeking good pastures have no doubt had a part in clouding the situation, even though the mover may have been all too often the innocent party.

Unified laws and regulations are increasingly necessary to disease control. This was stressed by the Bee Inspectors of America at their meeting in New Orleans last fall. Vigorous action in all states is likewise necessary. As long as we have states like Missouri, with neither law nor appropriation, we have direct menace to the good which may be done by inspection forces for hundreds of miles around. In addition to uniform laws (backed by planned and ample continuing appropriations) to approach the goal of eventual eradication it will be necessary to apply the laws strictly and without show of favoritism, to encourage a widespread use of burning as a means of control, for every beekeeper to assume a moral obligation to protect his neighbor rather than to ignore him or to expose him to disease, to have complete cooperation of all states in a program of mutual assistance.

—ABJ—

Comb Honey

For ten years I was a comb honey producer in Idaho. In comb honey production one beekeeper and a helper frequently do all the work with five or six hundred colonies, except cleaning the honey for market. With bees suitable for comb honey production, the difference in yield between comb and extracted honey is not great. Selling the crop is more of a problem.

T. A. Myers,
South Dakota.

Mr. Burleson's Costs and Mr. Hull's Markets

By Howard Potter,

Massachusetts.

MR. Burleson's analysis of the cost of producing a package of bees, as given in American Bee Jornal for March and in Gleanings in Bee Culture for February, is interesting, but it does not sell me any packages. Unfortunately, the cost of producing any commodity does not determine its value to the buyer.

Suppose, for example, I wanted a hundred more colonies of bees for the 1939 season. If I bought a hundred two-pound packages, it would cost me $170 (not counting queens) plus $100 for shipping and feeding costs, or a total of about $270 which I would have to borrow at 6 per cent interest.

If, on the other hand, I had operated twenty-five colonies for increase last summer, it would have involved no more labor to produce and prepare for winter a hundred increase than it did to operate them for honey. The only cash outlay would be about $6 for packing material. I would now have 2,500 pounds less of honey on hand which at Mr. Burleson's valuation, would be equivalent to $125.

One might object that the cost of an increase is more than twenty-five pounds of honey, but I have not found it so. Futhermore, in our Michigan location it is not difficult to divide strong swarms before the honeyflow and make a net gain in honey crop as well as in number of colonies. Another possible objection might be that my method adds the risk of winter loss. To this I can say only that I would feel more secure with the hope of a honey crop depending on bees I had prepared for winter than on an order booked for an equal number of packages.

Considering the situation as it now stands, I did not make a hundred increase last year; shall I now buy a hundred packages? To do so would increase the number of colonies I would have next fall by a hundred (my experience has been that about 90 per cent of packages actually develop into colonies worth packing for winter), and if the season is as good as last year, the total honey crop would be increased by 10,000 pounds. To arrive at the same fall count by making increase would eliminate the crop from twenty-five colonies—2,500 pounds. The gain in honey by buying packages would therefore be 12,500 pounds worth $625, if valued at 5 cents, against which the cash outlay of $270 would leave $355 to pay for producing **and selling** 12,500 pounds of honey. Will I lose less if I operate twenty-five colonies for a hundred increase with no cash return or if I operate a hundred packages and twenty-five colonies for 6¼ tons of honey for a net return of 2.8 cents a pound?

Of course, packages are the best source of bees to start an apiary or to provide increase in locations where disease is prevalent or where winter losses are high. A rise in the price of honey could tip the scales in favor of packages; but at the present rate of exchange, it takes too many pounds of honey to buy a package. Mr. Burleson has clearly stated his own disadvantage. He lists the item, "honey to produce bees, 15 lbs. @ 5c . . . 75c"; although he did not itemize it, he gives the figures, "honey to **buy** bees, 34 lbs. @ 5c . . . $1.70."

I always like Mr. Hull's articles, but I believe he draws false analogy in the March issue of American Bee Journal [p. 144] in his short article, "Automobiles vs. Honey." It is true that each make of car must compete with the others, even as honey must compete with other foods by which it may be replaced; but a particular make of car is controlled by one management; its quantity of production is the result of carefully laid plans and not the vagaries of the weather. Marketing goes by one step through a dealer to the consumer. The sole producer sets the retail price, the dealer's margin, the advertising expenses, etc. Does that sound like honey?

On the contrary, honey is produced by thousands of uncooperative individuals. It is marketed through a variety of channels from direct sales to the consumer to a many-step process through jobber, packer, wholesaler, and retailer. During my brief time as a beekeeper, the price one could get for honey in sixties has fluctuated from 9 cents to 4½ cents a pound. The retail price has showed no relation to what the producer got. I doubt if the consumer would notice much difference if all producers gave away their honey. In any large city five-pound pails may usually be found selling at prices ranging from 35 cents to $1.25. No variation of a cent or two a pound would be significant in such a range. Conditions being what they are, it seems desirable to get retail prices into some reasonable relation to producer prices, considering quality, package, and distance from origin to market, before we talk about increasing the consumption by lowering prices.

ABJ

Fumigator Taints Comb Honey

A comb honey producer used the ordinary wax moth fumigator, paradichlorobenzene, on a quantity of comb honey and reported that the odor of the fumigator persisted. Probably the old reliable sulphur is the best thing to use when comb honey is to be disinfected.

Naturally the best procedure is to keep your comb honey away from the the honey house for any length of time; for if the moths get into it, you are likely to have endless difficulty. Even shipments of sections sealed in sanitary wrappers may become moth-eaten if the comb honey was left exposed before being wrapped.

When supers are removed from the hives they should be made tight so that the moths cannot get in. Then if they are stacked up, sulphured well, and cased immediately, moths should give no trouble in the sections. Much of the comb honey on the market today need never get as far as sulphuring if it is properly handled from the time it leaves the hive.

Cover Picture

OUR cover picture this month is of White Dutch Clover, and is taken from the same photograph which was used on the United States Department of Agriculture leaflet No. 119, written by E. A. Hollowell, Senior Agronomist, Division of Forage Crops and Diseases, Bureau of Plant Industry.

Since June is the month of clover, this picture is quite appropriate. In this same issue, we have the article on forage crops by Prof. Johnstone-Wallace of Cornell University.

White Dutch Clover was the standby of American honey production for many years until the introduction of white and yellow, and annual sweet clover. The common White Dutch Clover was the main dependent for a surplus crop.

The picture of Mrs. W. C. Greenleaf, standing in a field of alsike, at Muir, Michigan (above), is the way the white clover pastures used to look years ago. Moisture conditions apparently have changed to such an extent that only occasionally do years producing White Dutch bloom in such profusion occur in the Middle West where formerly year after year such scenes were common.

White Sweet Clover coming later and extending over not only the same territory as the White Dutch Clover formerly dominated, but also extending its acreage into states where honey production used to be insignificant, has introduced into American beekeeping problems peculiar to itself.

White Sweet Clover has become the main white honey producing source of the United States. It blooms later and colonies can reach their honey producing peak at the beginning of sweet clover bloom with less care on the part of the beekeepers than used to be required when producing honey from the earlier blooming White Dutch Clover. Mass production and large scale operations can truly be said to be a part of beekeeping under the prevalence of White Sweet Clover.

Sweet clover seed depends primarily for its set on the visit of the honeybee and so there has been no larck of harmony between the farmer and the beekeeper in seed producing areas. The honeybee was also the main dependent for seed production in White Dutch Clover. In fact, it is the main dependent for seed in all the clover with exception of the deep corralled types like the red and crimson clovers which only yield honey occasionally under conditions when nectar is either unusually abundant or the flowers unusually short.

The picture of Mrs. Greenleaf taken in a field of alsike, is typical of acreage of that plant also, another clover common in American agriculture which depends primarily on the bees for a full set of seed. Writing about it, Mr. Greenleaf says "I believe it was the heaviest bloom I have ever seen, but after the end of two weeks drought blasted the blossoms and the bees quit the field entirely. We got most of the seed that did develop. Four years ago, due to the bees, I got four bushels of clean seed to the acre, where my neighbor got one. To get all the seed, the plants must be cut early in the morning when the dew is on and piled up to one side so the horses do not walk on it before it has had a chance to dry. Alsike seed is developed in pods like peas which are not easily shelled, but the pod drops off with the least touch."

ABJ

To Wipe Out Foulbrood

By W. E. Stepp,

Kansas.

If everyone who sells honey were compelled by law to have a clear certificate from foulbrood and inspectors compelled to burn everything found to be infested with foulbrood—equipment and all—without disturbance, we would see little more foulbrood in a short time.

I have found foulbrood more noticeable close to large cities due to honey containers being carelessly thrown out. I believe too that treating hives and supers by burning out is taking a one to ten chance of a clean job. It may be done by the inspector, but he can't afford to stay after he does the job.

Hives and supers, after burning, should be scraped and painted at once to cover up anything that may have been left, or may have become infested with while in contact with other equipment during the process. To me, there is only one safe plan to eliminate disease and that is to burn everything.

Of course if the beekeeper takes proper interest in keeping a clean yard he will make a special effort to get rid of disease so the inspector will not have to burn anything. Many beekeepers are negligent and will not cooperate. I have found when the beekeeper is told to "burn everything and do a good, clean job" that fifty per cent of them will not do it. I do not want to discourage cleaning up after foulbrood. It can be done, but the best care should be taken and results watched closely.

The saddest mistake the beekeeper can make when he has found disease is to shake the bees. This is a mistake. It spreads foulbrood. I tried the shaking method several years but it was never satisfactory. The only safe and sure way is to burn. It is the cheapest way.

Bee Pastures in Oklahoma

By J. M. Goin,

Oklahoma.

THE bee and honey industry of Oklahoma has not been developed to the extent possible with the bee pastures available. Clovers grow well on limestone soil which covers nearly one-half of the state. Sweet clover is becoming common along the highway and waste places as well as fields and pastures. Sweet clover is being further distributed by the waters of the Red, Washita, South Canadian, North Canadian, Cimmarron, Arkansas and Verdigis rivers. The hot, dry summer of 1934 killed much of the sweet clover of western Oklahoma, but present reports indicate the clover is fast reoccupying the areas where clover was thought to be destroyed. White clover is quite common on the lawns in the cities of the state. Yellow hop clover is being widely distributed in the eastern half of the state. Thousands of acres of alluvial soils grow alfalfa. Many acres of this are being harvested for seed which usually insures a surplus honey crop. A 75 pound surplus of alfalfa honey is not uncommon in late summer since the last cutting of alfalfa is allowed to seed.

February or March finds the maple and elm of the forest blooming. These provide pollen and probably some nectar if weather permits the bees to fly. The winter of 1936-37 found the trees covered with ice at time of blooming. Later the fruit trees, willow, redbud, dandelion, and other plants bloom. These do not produce a surplus of honey, but do furnish pollen and enough honey to excite the bees to do their best in brood rearing. Next come the yellow hop clover, black locust, some mesquite in southwest section, and berries. Willow is common in all counties of Oklahoma.

April finds vetch (much is being grown for a soil building crop), persimmons, catalpa, and small amounts of basswood or linden in the mountain sections of Oklahoma. Vetch produces a surplus of honey. June and July has an abundance of nectar from sweet clover, melons, peas, alfalfa, horsemint, sumac, milkweed, and many mixed meadow and woodland flowers. There was a surplus from clover, alfalfa, horsemint, sumac, and milkweed in 1938. August and September finds the wild aster, broomweed, cotton, cow peas, goldenrod, Spanish needle and smartweed or heartsease. A surplus of honey from cotton, and smartweed was reported in many sections of Oklahoma for the fall of 1938. There was quite a large surplus of honey from smartweed in a few apiaries. Some reported over a 100 pounds per hive for sections of eastern Oklahoma. This was called the "stinking honey" because of its characteristic buckwheat odor. It is a splendid dark honey and also sold well. A few select hives reported over 400 pounds of extracted honey for the 1938 season.

The principal sources of surplus honey come from sweet clover, alfalfa, cotton, smartweed, and horsemint. Mixed flowers of meadows and woodland in general play a large part in the production of surplus honey than was formerly thought by commercial beemen. There are examples of surplus honey stored in August and September from broomweed but this is unusual since the bees consume the larger portion of this honey. Holly produces a surplus of honey in the mountains of eastern Oklahoma, but no large area exists. Hairy vetch is a splendid plant for surplus honey, but it is well established that the tongue of the common wild bee is too short to secure nectar from the flower. A good illustration is given by two beekeepers who live within a block of each other. The apiarist with the native wild bees was feeding his bees sugar syrup during the vetch nectar flow from a near-by field, while the other apiarist with golden and three-banded Italians secured a large surplus of honey for sale. It has been well demonstrated the past year that our native wild bees are unable to secure nectar from hairy vetch.

Black locust and catalpa are good sources of nectar but so far the area planted to these splendid forest trees is too limited. A beekeeper cannot afford to build his colonies up to field strength for the catalpa and locust flow. No doubt, a larger scale planting would pay well on many of Oklahoma's eroded and abandoned farms. The wood is valuable for post since it does not decay easily. The catalpa produces a fine honey, but it is limited to a few shade trees usually. There is a five-acre block in Oklahoma County. The catalpa produces honey from nectar glands of leaves and petiole of leaves as well as flowers. The persimmon is a source of a fine quality honey before the vetch or sweet clover comes into bloom. There are many thousand acres of persimmon in Oklahoma and I have reports of a surplus of honey being stored from this plant. The redbud blooms with magnificent lavender flowers, and bees are very busy, when weather permits, gathering nectar and pollen. No surplus is reported from redbud, but it serves for spring food and is stimulative to brood rearing.

Buckwheat is not grown extensively in Oklahoma. A few small fields of buckwheat in northeastern Oklahoma indicate a fair flow of nectar, but disappointing to the apiarist since he expects too much from a small area. It is a generally accepted fact that it does not pay to plant pasture just for the honey produced. It does pay where soil building crop, commercial seed production, and home pasture are desirable.

Cotton produces well on the tight or muck soils. Much of the late summer honey of Oklahoma is principally cotton. The cotton has additional nectar glands at the base of the sepals or "squares" as the cotton farmer calls them. There are great possibilities for home and commercial production of honey from cotton. It comes when there is not conflict with other nectar flows.

Dandelions furnish some nectar and pollen for early brood rearing, but never a surplus. The dandelion has become a pest on lawns in our cities. The goldenrod grows in waste places, pastures, and right-of-ways over our state. This year the goldenrod bloomed until dried up by drought. No surplus has been reported from this plant in Oklahoma, but other states often report a surplus of honey. Spanish needle grows in some sections of Oklahoma and produces a surplus of honey in the fall. This pasture has been overlooked by beemen of our state.

Bees work cow peas, but I do not know of a large surplus of honey from this source. It is very likely if bees were moved to some of our larger fields of cow peas in eastern Oklahoma a surplus of honey would be gathered. Cow peas produce nectar from blossoms and nectaries of the stem.

Horsemint is abundant in Oklahoma, and many thousand acres of this plant are never visited by bees in some western sections of Oklahoma. The white horsemint is a splendid honey plant, producing a good flavored honey. The red horsemint is accused of being too strong with the mint flavor. There are great possibilities with the white horsemint for commercial production of honey. A handicap is that it blooms before the close of sweet clover honeyflow. Bees seem to prefer to work clover in preference to horsemint.

Sumac produces a surplus of good quality honey in small areas of Oklahoma and I know a good beekeeper who moves a few colonies of bees near the sumac of the woods and old fields in his county. He reported a surplus of over fifty pounds in a few days.

Bees do not work sweet clover every year in Oklahoma. There are seasons when flies, beekeepers say "old green flies" feed excessively on the nectar from sweet clover. When this happens bees seldom feed on the nectar. This is a good research problem for a beekeeper to solve.

In general our bee pastures are the plants of the alluvial soils along our rivers, creeks, and lakes. Each of our river bottoms are sources of excellent bee pastures. There is a subirrigated area in western Tillman and eastern Jackson counties which is excellent for bee pastures. The farmers are utilizing this area for honey production for home consumption and market. This area will increase in the commercial production of honey. One of their big problems is pollen for spring brood rearing. There is an abundance of willow on Red River. This will eventually solve their pollen problems since some of the more progressive farmers are moving their bees to the pollen pastures early in the spring and back to clover pastures later. The artificial lakes being constructed by the Government, will extend the area of good bee pastures.

The Washita Valley is a first rate honey producing region. Large acreage of alfalfa and cotton are grown, and clover often lines the highway, streams, and waste land. Parts of the valley have been deserted by beemen because of disease. It takes a more experienced apiarist to manage bees in western and northwestern Oklahoma because of the drought conditions. The Arkansas, Canadian, Cimmarron, and Verdigis rivers furnish very large areas of bee pastures which have not been utilized. The bee pastures of these regions of Oklahoma will compare very favorably to the bee pastures anywhere in the U. S. A.

The big problems in Oklahoma are lack of experienced beekeepers (although we have some splendid beekeepers), summer dearth of nectar, and disease. There are many box hive beekeepers who believe the more the bees swarm the more honey one will get. Some think there is no such thing as disease. As a result disease is becoming more prevalent each year. The hot dry summers cause a dearth of nectar and the honey stored in the spring and early summer is sometimes required for food in the hive.

—ABJ—

Beeswax in Art —Cleopatra and Cosmetics

By J. T. MacMillan,

New York.

COMMONLY it is believed that the notorious last Lady of the Nile invented the highest of all fine arts: female beautification by artificial means. If there are any doubts left about "making up" being one of the fine arts, a glance through the pages of political history will dispel all cynicism.

Of course, Cleopatra was not alone, nor first, in the ranks of swank women enhancing their appeal and thereby changing the muddled course of history. Long before Cleopatra successively charmed Julius Caesar and Marc Antony, incidentally tossing the destiny of her homeland into the hands of the Roman legions, Helen was beguiling the noble Paris. But when he carried her off to Troy, the Spartan legions found they could not do without their fair lady. Using that sentiment for an excellent excuse—or political pretext—they lay siege to Troy for ten long years. We have that spicy legend in the tale of the Wooden Horse, by means of which Troy finally was taken.

Catherine de Medici, Anne of Austria, Josephine and her Napoleon, Madame du Barry and Louis the Sixteenth, Anne Bolynge and Henry the Eighth—but that's all old history. One sophisticated American lady become the Duchess of Windsor, shaking the centuries-old roots of a modern Empire, as though by a hurricane. More recently the destiny of a central European country has been accelerated by the love of its army chief for a peasant maid.

Few of these illustrious ladies are known as "beauties." What they do have—believe it or not—comes from cosmetics, of which the standard base is beeswax. The skin you love to touch and that school girl complexion; that's what counts! Ask any woman.

If we had a complete history of cosmetics, we would find their worldwide usage clear back to the days when the fossilized honeybees of the northern Europe amber beds, were flitting from bloom to bloom in search of nectar. It is thought that cosmetics originated in the Near East. More likely, eastern cosmetics produced more beautiful women through the use of beeswax and honey, while people of other sections of the world were trying out such deleterious items as powdered chalk, lead and arsenic salts, beet roots and even white lead.

At all events, long before the first page of history was written, women doubtless practiced the art of makeup in order to attract or hold their men. Cleopatra simply brought this art to the fore. She and her ancestor Pharaohs of Egypt left records of the substances utilized, in the pyramid tombs on the banks of the River Nile.

Ointment and cream jars of alabaster; relief carvings and paintings; all depict many phases of the royal

toilet. Those objects of the Thinite Dynasty of 4,000 years ago, when uncovered by excavators, still bore aromatic traces of perfume. Honey and beeswax were popular along with thyme extract, myrrh and frankincense. All of these are mentioned too, in this connection, in the Bible and the Mohammedan Book of Prayer.

Doubtless the searing, dry heat of the parched lands of the Near East caused the selection of beeswax as the best protective element in existence for facial preparations. Its ductility at skin temperatures; adhesive qualities; and smooth, almost textureless structure insure its permanent place in cosmetics. This is true today also, in the face of a host of new chemical discoveries.

Cosmetic experts still assign these reasons for their continued and increasing use of beeswax. In some cases mention is made of its low iodine absorbing power. Practically the only direct substitute for wax is Chinese gelatine, which is employed at times in cold creams and hair pomades. The chief emulsifying substance in cosmetics is wool wax, or lanolin.

Americans use more cosmetics, they also state, than most Europeans, for the same reason it was born of necessity in Egypt: dry, hot atmosphere. Cosmetic manufacture here has increased ten times since the World War. We spend almost 200 million dollars each year for milady's face, Susan's hands and Johnnie's neck. In face powder alone there are more than 1200 registered brands.

The basic element in all cream is beeswax. Whether cold cream, massage, mosquito protective, deodorant or make-up cream, beeswax is present. Skin whiteners, bleaches, lipstick and lip pomades are exceptional if they do not contain it. Wrinkle creams have it, and so do artist's grease paints and masking creams for hiding skin blemishes and freckles. The proportion of beeswax to other ingredients varies greatly.

More familiar in crinoline days, but still finding limited use, is mustache wax. Finger nail white, eyebrow and lining pencil formulas invariably contain beeswax, primarily for its superior adhesive powers.

Completing the list, which contains practically all formulas for making cosmetical preparations, are wave set lotions, sunburn and chapped hand preventatives.

From the earliest days onward, honey has not been neglected in this field either. Its chief value today is in the familiar honey and almond oil pastes and creams, amandine, hair tonics and one or two tooth pastes. Amandine is a skin lotion or a cream soap, depending on the manufacturer. Generally, it consists of honey, almond oil and minor substances.

A conception by the artist, Henry Peters Gray, of Cleopatra dissolving the famous pearl.

An occasional analysis has proved the use of glycerine as a substitute in the "honey and almond" products of some unscrupulous manufacturers. In fact, chemically pure glycerine, because of its relative cheapness, has been substituted for honey in more fields than this. Glycerine does have protective qualities on the skin; and its application, more quickly than anything else, will restore normal color to sunburned faces.

But it is in Hollywood that we have traveled far beyond the substance and thought of an act introduced into the English Parliament about 1770 which reads:

"Be it enacted: All women of whatever age, rank, profession or degree; whether virgins, maids or widows; that shall hereafter impose upon, seduce or betray into matrimony, any of His Majesty's liege subjects, by use of paints, perfumes, cosmetics, false teeth, or hair, Spanish wool, iron stays or bolstered hips, shall accordingly be subject to the full penalty in force against witchcraft. Any misdemeanor, or marriage, upon conviction shall be null and void."

Our own state of Pennsylvania had a similar law in early colonial days.

Despite that, on the screen today we view the antithesis of that antiquated blue law. It's in Hollywood, and to a limited extent on Broadway, that we reach the acme of cosmetical perfection.

Do you remember the horrible Quasimodo in "The Hunchback of Notre Dame" or Eric in "The Phantom of the Opera"? The normal looking Lon Chaney acted both parts. Master of movie make-up, he used beeswax disguised as grease paint for the greater part of chameleon-like roles.

The artist's make-up box contains hundreds of items, many, or most of

them, based on beeswax foundations. All fifteen different types of grease paint contain beeswax. Protruding eyes are made to come and go; double chins disappear; scars appear, whenever this is skillfully patted into the skin.

Different color lining pencils—beeswax again—make flat personalities glow with life before the camera lens. Six shades of rouge, lipsticks, face powders, liquid colors and brilliantine all contribute their bit. Plasto is used for building up the handsome face into that of an ogre. And black wax knocks out a tooth here and there. No more burnt cork; it's done with grease paint, cold creams and pastes now. And in the sunny land of fabulous pay checks, the make-up man stands with the best—in the first rank of the high salaried.

Grease paints are said to have been invented many hundreds of years ago. They contain oils, spermaceti and beeswax. Probably they originated amongst our North American Indians, who used bear fat as a base for their vivid war paints; and much as the long distance swimmers of today, as protection against cold.

With the startling developments and discoveries in cameras, film and lighting technique, great changes have taken place in the manner of make-up. In order to secure the same effects as formerly, less dependence is placed on the make-up box and more on the technicians.

Yet, if you met Boris Karloff on the street he wouldn't look like Frankenstein any more than Clark Gable does. Though more subtle, the art of Cleopatra, it would seem, is here to stay. Close inspection of the screen, next time you go to see Myrna Loy, Joan Crawford, Robert Taylor or John Boles will fail to disclose the artful deceptions of beeswax. But it's there, nevertheless. When it comes to tradition and present day usage, not another agricultural product in the world is the equal of beeswax. Unless it's honey.

—ABJ—

Sidelights on Commercial Beekeeping In England

By A. W. Gale,

England.

A. W. Gale.

THE Editor has asked me to write an article on my methods of handling bees, as he is somewhat surprised to find a beekeeper in England, which he had always believed to be a land of small beekeepers, running about 1,300 stocks. It is rather difficult to find anything which would interest American beekeepers, as I have no spectacular methods or achievements to record, but just keep plodding along with few alterations.

Of my 1,300 colonies, which I winter each autumn, we can seldom count on more than 1,200 effective stocks the next spring. Winter losses in the form of dead stocks are few, but we always find a number of stocks that have lost their queens, for some reason, and have reared virgins that have not mated; also, for some unknown reason, we always find that a few clipped queens—perfectly normal the previous year—have developed drone-laying during the winter. There are also occasional stocks which have dwindled badly and which cannot be of much use for the season.

We actually run about a thousand colonies for honey production; the remaining stocks are used for sale (we have a fair business in the sales of hives, bees, and queens,) for increase, and to provide nuclei for queen-rearing, as we rear five or six hundred queens for our own use each summer. These stocks are kept in different outyards, not less than two miles apart and often much more, scattered round the district for a radius of twenty to thirty miles. We run from forty to seventy stocks in one yard, according to the capacity of the district; the better the location, the more stocks. Each yard is situated as far as possible in some naturally sheltered spot, and all are accessible by lorry so that we can drive right up to hives for loading and unloading. If insufficient shelter is available, we erect windbreaks of cleft chestnut fencing.

Our hives are of the Langstroth pattern but take British standard frames, which are 14x8½ inches. They hold 13 frames. Many of the best British beekeepers favor the larger frames, such as the Langstroth and Modified Dadant (the latter are the more popular), but we have always had better results from these small frames and shall continue to use them till we see very strong reasons for changing.

On top of each inner cover is pinned a card bearing the age and strain of the queen, whether she is clipped or not, and a short note of the work done at each visit. We usually use initials for this; thus, **Jy. 15 NCB** would stand for **July 15, no cells between bodies** (hence, no attempt at swarming).

At the first visit each spring, we change the floor boards and inner covers of each hive for fresh ones. The others are taken back to the central apiary, scraped, scrubbed with hot water and soda, and repaired if necessary. Every third year we also change the hive bodies and re-creosote them. The floor boards, which wear more, are repainted every other spring. At this examination the combs are carefully inspected for traces of foulbrood, which, unhappily, is becoming more common in England, any mouldy or drone combs are replaced by better combs carried on the lorry for that purpose, a new record card is given, and the queen,

if unclipped, is found and clipped. Unless the stock is a very small one, a feeder is placed in position and the colony is fed. (We find that feeding small colonies is definitely harmful and that it is far better to give such small lots combs of food from larger stocks.) Stocks which have a large amount of stores are not fed heavily; but no matter how much food they have, we still find it pays to feed them. The reason for this is that there is very little spring nectar in this district, and the bees do not seem to work up half so fast unless there is a fresh supply being stored. Times without number we have left heavily-stored stocks unfed and fed only the lighter stocks; and a month later we have found that the colonies which had been fed, although no larger than the others at that time, had drawn far ahead of the unfed stocks. Provided they are strong enough to utilize the feed properly, we now feed every stock, even though it means exchanging a few combs with a lighter colony to give room to store the syrup.

We feed only a thin syrup in the spring. Syrup made as weak as five parts of water to one of sugar will be readily consumed and appears to have as much stimulative effect as heavier syrup. On several occasions we have tried feeding a syrup of skimmed milk and sugar, instead of water and sugar. Bees take it well, and it certainly stimulates brood rearing much better than plain syrup; but, unfortunately, it is very difficult to get all the stocks to take down a reasonable amount before the syrup sours, and then the feeder has to be taken back to the home apiary and scalded out. If we could spare time to keep feeding, say, single pints of milk syrup, we would do so. Pasteurized milk keeps much longer than ordinary milk, but even then probably one-third of the stocks do not clean up all the syrup before it sours.

We visit each apiary every ten to twelve days throughout spring and summer, unless it is a non-swarming season and the weather is cool, when we may lengthen some of the intervals by a few days. As soon as the first brood chamber is fully occupied, or just before, another brood box of drawn combs is added and the queen is allowed full run of the twenty-six combs. Feeding is continued at each visit, sometimes up till June 20, if the weather is wet and cold; but it is often stopped much earlier. As soon as the weather is right and a honeyflow starts, the feeders are removed.

On the first visit after the second brood box is given, the stock is not opened, as the bees seldom build queen cells so quickly after additional room is provided; but in later visits a hive tool is inserted between the two bodies, twisted to separate them, and the upper body levered up so that the lower edges of the upper combs can be seen. One puff of smoke to clear away the bees, and a glance reveals whether the bees think of swarming, as cells, if present in the stock, are almost invariably started along the bottom of these upper combs. Should none be seen, the hive is closed and **NCB** written on the record. But should cells be found, all combs in both bodies must be examined.

One of the author's apiaries in the rolling English countryside.

We take little notice of the few queen cells containing eggs of just-hatched larvae. Probably half our stocks start these once in the year, but if they are destroyed, the bees abandon the idea of swarming. A certain number of stocks repeatedly raise cells. We de-queen these and visit them nine days later to shake comb and destroy all cells. Afterwards, we give them either a grafted cell from a selected breeder or a young queen in a tiny nucleus, which we unite on top of the stock over a newspaper and an excluder. On the next visit, the nucleus—which is then considerably larger, as the bees flock to the queen and draw out foundation for her—is placed at the bottom of the hive, the excluder is put over her, and the brood box need not be touched again for the rest of the season.

We do not remove any honey till after the end of the flow but add supers as required. The supers are left on the stocks till we are ready to extract them, not immediately the flow ends. We lose some honey in this way, but the bees keep on breeding and do not check, as they would if we took away all the honey and a wet spell ensued. Our clearer-boards [escape boards] contain four double Porter escapes each as the bees clear more quickly with them; and if any escape becomes clogged by a dead drone, the bees still have other exits. This climate does not seem to be warm enough for the successful use of carbolic cloths for clearing supers. We have tried this method several times, but it has been very unsatisfactory. In any case, apart from the fact that one saves one trip to the outyard (and we always put clearers on when doing some work at a nearby yard, so as to save a journey), clearer-boards seem to be more time-saving. We may have four or more full-depth supers on a hive, but two men lift them all off together and dump them on the carriers, while with carbolic cloths, one would have to take off each super separately.

We use a 48-frame radial extractor and an uncapping machine. The honey is pumped overhead into the next room, where it passes through a strainer and then runs down a sloping pipe (to prevent too many air bubbles) into a 4-ton tank. This tank is connected by a 4-inch pipe with a similar tank on a slightly lower level, and the pipe can be closed by a valve worked from above the tank. With the pipe closed, the first tank is filled; and the honey has time to clear itself to some extent in this tank, any tiny particles of scum which have escaped the strainer rising to the top. When the first tank is full, the valve is opened and honey flows into the next tank, till it reaches the same level in both. The valve is then shut and honey

again runs into the first tank. This process is repeated till both tanks are full. The whole time only the best and cleanest honey is being drawn off from the bottom of the first tank, and this has still a further chance to clear itself in the second tank. The second tank is also fitted with a set of tinned copper coils connected with a thermostatically controlled gas heater fixed below the tank. Before honey is drawn off, this heater is lit, the thermostat set at the required temperature, and in a few hours the whole of the honey is at the right temperature without risk of overheating.

We use an electric bottle-filling machine capable of about one thousand jars an hour, and much of our honey is bottled direct from the tank. The remainder is stored in 28-pound tins for bulk sales or to be melted down later as needed for sales in jars. For winter bottling we have three tanks, each made to hold four hundredweight in 28-pound tins. The tanks are double-walled on all sides and have double-walled lids, the spaces being filled with insulating materials. Along the bottom of the tank are set metal bars ½-inch high by ⅛-inch thick. The tins stand on these and allow circulation of water to avoid burning the honey. Under the tanks are gas heaters, thermostatically controlled; and when we wish to bottle honey, we fill the tanks with tins, add water to within two inches of the tops of the tins, and light the heaters after setting them to the correct temperature. For honey to be sold liquid we heat to 160°F. and keep the honey at that temperature for five minutes, afterwards cooling rapidly. For granulated honey sales we heat the water to 120°F., turn out the gas and leave the honey to warm through gradually for twelve to fifteen hours. At the end of that time it is of the consistency of thick cream and will pour quite easily but is still white in color. Within three days this honey is usually set again as hard as butter, and customers usually prefer it to naturally set honey which is much harder.

For autumn feeding we use large feeders holding thirty-five to forty pounds of syrup. The cover is removed and the feeders, which are the same size as the hive body, are placed in position and the cover and roof replaced, so that there is no chance of robbing.

We do not pack the bees for winter. We have tried winter cases of the American pattern but find them an actual disadvantage, as the bees are kept so quiet that no cleansing flights are made throughout the winter. Possibly this may be from some defect in the construction of our cases, but in this climate bees suffer from damp, not cold, and much packing appears unnecessary.

—ABJ—

Institute News Notes

The April 17 issue of Food Field Reporter carried an article from Institute Inklings entitled "Introducing." In response to that article some of the largest honey buyers in the United States have written to the Institute requesting copies of Inklings that contain the names of producers who have honey to sell. If you desire to have your name on the list, inform the American Honey Institute as to the amount and kind of honey and how it is packed.

* * *

The United States Army Air Corps maintains one of the finest training schools in the world at Texas. It has been said that approximately four-fifths of the applicants are rejected because of the lack of physical fitness. The young men who are accepted help to keep up the high health standard by means of an adequate diet. A sample breakfast menu includes fruit or tomato juice, cereal, bacon and eggs, toast and butter, jelly and honey, milk and coffee. Why not keep up our health standards with a breakfast that includes honey in its menu.

* * *

After a visit to one of Madison's most up-to-date bakeries where honey is used to help make better bread and rolls, thirty enthusiastic Home Economics students and their instructor visited the offices of the American Honey Institute on May eleventh. At the Institute the young women heard a talk on "Honey in the Daily Menu."

* * *

Sweeten the boiling water in which you cook your favorite cereal with honey and you need no sugar. It is different. It is delectable.

* * *

Dilute honey to spread on ready prepared cereals and fruits.

* * *

Did you see the full-page advertisement and recipe for a honey apricot pie in the May issue of McCall's magazine?

* * *

When you make your favorite cake, serve it with whipped cream into which honey has been folded.

* * *

Besides a mass display of honey in stores, honey should be displayed with other foods. Honey should move with every box of groceries that goes out the door. Honey should shine so brightly from the shelf that it may glide into the order of every grocery buyer.

Bread and Honey

Are the bread wagons in your locality carrying your honey on their routes or does legislation in your locality prohibit it? Has your baker a bread and honey exhibit in the grocery store? People will buy more bread when they have honey to eat on it. Help Keep Happy, Healthful Homes with Bread, Milk, and Honey.

* * *

The Institute has been contacting Home Economics instructors and dietitians and has met with hearty co-operation. One state that is planning to include honey in its 1939-1940 program has 74 County Home Demonstration Agents.

* * *

A re-run of 100 Honey Helpings is being made. The Institute will be pleased to fill your order.

* * *

The Home Economics Extension Service of Rutgers University is planning to increase its informational service to homemakers through the various newspapers of New Jersey. The American Honey Institute was very much pleased to cooperate by furnishing material on honey.

One Dead Bee

One dead bee in a can of honey is one dead bee too many. A prominent Pacific coast buyer writes to the Editors on the vexed question of cleanliness in honey handling. There can be no doubt but that much honey is handled well. However, those producers who persist in mishandling their honey are a problem to the entire industry.

Los Angeles,
April 4, 1939

Sirs:

Your very timely article, "Shall We Have Inspection of Honey?" appearing on the editorial page of the March issue of the "American Bee Journal" has been read with considerable interest. Inspection of honey would mean just one more expense to the producer, and we will say, first and last, we want to avoid this, as the beekeepers do not need more expenses but a better price for their product. A good, clean product packed in good, clean containers will do more to help the industry and develop business, particularly with the baking and confectioners' trade, than any inspection could bring about. The importance of putting a strictly clean, well-cured honey in the hands of the trade should be stressed continuously in your magazine, in government publications, and at all beekeepers' meetings.

There is no question as to the truth of your article as the loss to the entire honey industry, by losing the baking trade and other trade, as has occurred during the past few years, is most serious and one that is probably partly responsible for the low prices now prevailing and for the so-called "surplus of honey" on hand.

It is a natural and justified inclination for beekeepers to want better prices for their product and they are certainly entitled to them. However, it must be impressed upon the beekeepers that they themselves are partly responsible for prices. Unless the trade, which includes the baking industry, the packers, and in fact, all users of honey, is entirely satisfied with the honey they receive, they will switch to something else besides honey; and, naturally, if volume sales for honey decrease, so does the price. Better prices will be obtained by gaining a larger volume of business and this can be done eventually only by producing and furnishing a strictly good, clean quality honey, packed in new, clean containers.

As dealers and shippers we handle several hundred carloads of honey a year and we are actively in touch with all the large buyers throughout the United States, as well as the export trade, and have no hesitancy in saying that many of the baking concerns and others have eliminated honey from their products, while some have cut it down to a minimum on account of the unsatisfactory honey they received. By unsatisfactory honey we mean honey that is dirty, that contains waxy particles, and has a scum, foam, or other foreign matter on top of the honey, also honey that is thin in body and will eventually ferment. The condition of the cases and cans has caused many complaints from buyers. To quote from one of them: "The disgusting and dirty condition of the cans of honey that I received in the shipment indicates that the beekeepers are not interested in putting out a clean product in a clean, sanitary manner to go into places like bakeries, so why should I buy honey?"

We also are aware of the fact that several shipments of honey that were contaminated by carbolic acid have been condemned. We know of baking houses that have had honey ferment and this has made them very dissatisfied and unwilling to purchase stocks to carry in their warehouse for a period of from three to six months, as many of them do.

When anyone purchases honey to use in preparing baking goods, ice cream, candy, or any other product, they expect and should receive a clean, heavy body honey, packed in new clean containers that can be used without the necessity of processing the honey, as these buyers are not equipped to clean and process honey. These buyers can purchase many substitutes for honey, such as invert sugar, and receive them in a strictly clean condition. To repeat, some of the things that buyers will not contend with, are dirt, waxy particles, bees or foreign matter, scum or dirty foam, all of which are often found on top of the honey, and they also object strenuously to the cans or cases being dirty, rusty or stained. Last but not least, they complain about thin body honey that many times will ferment. If any of these conditions are found in the honey purchased, it puts them in the frame of mind not to buy honey as they cannot depend upon the quality.

You can appreciate the fact that if any of this unsatisfactory honey is used in the buyer's mix or preparation that the entire batch or mix is ruined with a loss to the buyer, and indirectly a loss to the beekeeper as this buyer will probably switch to some substitute and eliminate honey.

There is no question in our mind but that the honey industry has suffered from these conditions because we know definitely of many concerns that are not buying honey as they formerly did and they state that they are not going to buy it under the existing conditions.

If the beekeepers will take the proper steps to see that the honey is put up in good, clean containers, and that the honey is good and clean, then the trade will begin to buy and we are quite frank in saying that it would not be long before considerable business would result. If the demand increases, naturally the law of supply and demand would govern prices and bring results of higher prices for the beekeepers.

Good quality honey can be produced by all beekeepers if they will give it a little more time and a little more care. It is entirely unnecessary to have expensive equipment properly to produce and clarify honey. Every beekeeper knows, or should know, that if he extracts green or unripe honey that it means a thin body honey that will probably ferment.

A few suggestions for properly preparing honey for the market are as follows: Have sufficient tank space, as that is the only way that honey can be satisfactorily settled. Many producers are using straining cloths or wire screens to strain the honey when running from the extractor to the tank. Any method of straining is advisable, but do not heat the honey as many buyers will not buy if the honey has been heated. The honey is usually warm enough at the season of extracting and can be strained providing the producer gives the honey a little time and does not become impatient. Honey that is allowed to settle in the tank will clarify itself and all dirt or foreign matter will rise to the top of the tank and this sediment can be skimmed off each day to allow for proper evaporation or settling. After the honey has settled, it should be drawn from the bottom of the tank.

The last few inches of the tank should be re-strained as that portion is often thin or dirty.

In order to prevent bees from flying into the stream of honey when filling the cans, it is suggested that a screen compartment be built around the filling platform. In case a bee should accidentally get into a can, be sure to re-strain the honey in this can before marketing.

Many lots of honey are received where the honey is entirely satisfactory. However, the cases and particularly the cans are very dirty or rusty. If any honey is spilled on top of the cans as they are being filled, the honey should be washed off immediately with warm water and the cans dried as this will prevent dirt from settling on the cans.

Keep the cases and cans dry and clean by storing them in a closed storage place where the elements have no chance of damaging the honey or the containers.

Many splendid, constructive articles have been written on the proper preparation of honey for the market and undoubtedly these have been considered by many beekeepers. However, there is room for considerable improvement. By concerted effort among the producers, the dealers and the supply men to put out a first-class quality product, a better demand can be developed and maintained to such a point that prices would advance, there would be no so-called "surplus" and the beekeeper would get a better return on his honey than he is getting under existing conditions.

Yours very truly,

Bryant & Cookinham, Inc.

L. E. Sawyer.

—ABJ—

Transferring to Modified Dadant Hives

THE article on page 187 of American Bee Journal for April brings to mind my experience in that line sometime in the early 1920's. Using almost the identical method, I added two features, one of which I think a help and one (which many using the method will be tempted to try) which set me back for a loss.

My first experience was transferring five colonies from eight-frame hives to the Modified Dadant hives. These colonies were chosen from the best in the yard and were transferred to hives filled only with foundation. I followed the method outlined on pages 187, taking care, however, to kill all queen cells in the hive above.

To this method I added what I think was an improvement. Bees are a little slow to uncap and carry honey down through an excluder, so about the close of the dandelion flow I extracted all honey from the upper chamber and fed it back gradually during the next ten days or two weeks. These colonies were **ready** for the white clover flow about June first and the results: an average of 110 finished sections, also some extracted honey, as I was short of sections. The balance of the yard—about 40 colonies in eight- and ten-frame hives—gave an average of 101 pounds of extracted honey.

The following year I transferred five eight-frame colonies to Modified Dadant hives, using only foundation. Keeping the same method, I added a detail which I thought was an improvement and a labor-saving device—an idea that might occur to most beekeepers. When the brood was capped, I replaced the excluder with a bee escape, believing the bees would go down through the escape fast enough to push the brood rearing below. However, they didn't; the result was a sit-down strike. Waiting a few days and finding no letup in the strike, I took matters into my own hands and shook a good bunch down in front; and here I got a surprise. These bees were promptly killed by those below. I thought I must have missed a queen cell and that they had a virgin queen above, although I was not able to find one; so the escape was replaced by a queen excluder, shaking in front was resumed a few days later, and all went well.

The result was this; ten colonies in Modified Dadant hives—five on combs and five new ones on foundation—gave an average of 147 finished sections. I have lost the figures on individual colonies so cannot compare those having ready-built combs with those starting on foundation. (In these two years no other colonies were run for section honey.) The balance of the yard averaged 137 pounds of extracted honey.

I believe a large hive, if the extra size is in **depth** of comb, will give a much better filled and heavier section than a smaller hive; and I think this is the reason. To produce fine section honey, supers must be kept crowded with bees, and the large, **deep** hive has 60 per cent more room than the ten-frame but much more than 60 per cent more brood capacity. Figure the cubic content of a nine-inch sphere as compared with the eleven-inch sphere. Also, the capacity of the Modified Dadant super is but 14 per cent more than the ten-frame hive. That is where you get the crowded super that makes for heavy, well-finished comb honey.

An Iowa Bee Man.

—ABJ—

Best Honey Often Has Narrow Appeal

When dark honey of good quality is found selling at a lower price than light the reason is generally that, being of a more pronounced flavor the dark honey has a narrower range of appeal. Fewer people want it. Those who do want it are generally willing to pay as much for it as for any other. This conforms to the general principle that those things (of whatever nature) that gain widest appeal are to a certain degree insipid. It seems less important that they possess outstanding good qualities than that they possess no outstanding qualities to which anyone might conceivably object. I think this accounts in some degree for the tremendous preference that people have for sugar over honey. Besides its convenience, sugar is as near tasteless as any sweet can be. The mildest honeys—that is, those that approach nearest to this tasteless standard—are in widest favor. Honey of pronounced flavor is worth more to those who prefer that flavor than mild honey. But in any given number of people there will be fewer who like the pronounced flavor than who like, or at least will tolerate, the mild. Naturally it is harder to find individuals of this minority than it would be to find an equal number of the majority. Hence the more pronounced flavors are harder to sell.

Walter Hull,
North Carolina.

Tested Recipes—

Honey Gum Drop Cookies
Honey Nut Cookies

By Mrs. Fred Doner,

Illinois.

Above—Honey Gum Drop Cookies.
Below—Honey Nut Cookies.

Honey Gum Drop Cookies

4 eggs beaten until very light
1½ cups brown sugar
½ cup strained honey
2/3 cup nut meats (chopped fine)
1 tablespoon of cream
1 lb. gum drops (in assorted colors) cut up (in small dice)
1 teaspoon vanilla
2 level teaspoons of baking powder
2 cups flour
Bake on cookie sheet, cut in squares and roll in powdered sugar.

Both of these recipes are entirely original with Mrs. Doner and used for several years. She herself has tried them many times and we have tested them ourselves and find both of them excellent recipes, producing very tasty food. Mrs. Doner says, "We have used these recipes at bridge clubs and other occasions and have received many compliments. The honey flavor is very pleasing. I am trying out new honey recipes all the time."

Honey Nut Cookies

2 eggs
1½ cups sugar
½ cup honey
1 cup butter
1 cup nut meats
¾ cup sour milk
½ teaspoon soda
1 teaspoon baking powder
About four cups of flour (or enough to make a soft dough)
1 teaspoon vanilla

Cream sugar and butter together, add beaten eggs and strained honey. Stir soda in sour milk. Sift flour with baking powder, add nuts, and add alternately to above ingredients. When dough is stiff enough to mix with hands, take on board a little at a time, roll thin, cut with fancy cookie cutter and bake.

IF you have a favorite honey recipe we will be glad to test it for you. If it has general appeal and works as well for us as it has for you, it will be published. These two recipes by Mrs. Fred Doner were tried in our kitchen and the pictures are of the cookies as they actually appear. You may use these recipes with confidence that the results will be satisfactory.

The Supersedure Impulse

By H. J. Wadey,

England.

THE impulse to supersede a failing queen is clearly a provision of nature for the perpetuation of the colony, and in certain strains of bees it is quite unrelated to swarming.

It is found that some strains of bees, usually dark types, will merely discard a poor queen at swarming time and allow the first virgin to head the prime swarm. This, I submit, is the lowest grade of supersedure and is of least use to the honey producer.

Other colonies we find which will retain the old queen until the first virgin emerges from the cell, and then the old one disappears and the young one takes her chance of mating, no swarming taking place.

The perfect supersedure is that in which the young queen is reared and mated before the old queen shows any sign of deterioration of fecundity. In many instances the two queens continue to live together in the same colony in apparent amity. I have seen them both laying on the same comb without attempting to molest each other. It has been my experience that this quality of perfect supersedure is definitely hereditary and that it is almost invariably associated with extreme amenability to swarm control.

An outstanding example in our own little chain of apiaries is a colony which since 1921 has never swarmed at all, only once made swarm cells, and on six occasions superseded its queen, each time preserving her for some time with her daughter. Similar occurrences have been common with related colonies.

By carefully observing those colonies that exhibit this trait, and by exploiting the supersedures in select stocks by using the colonies for producing ripe cells for mating nuclei, it has been possible to distribute a good many of these queens about our apiaries for some years. The result is that very few colonies attempt to make swarm cells, and that our requeening is reduced to replacing only those queens that are proving unsatisfactory, or whose progeny is exhibiting undesirable qualities.

There is some doubt in many minds whether it is possible to distinguish between swarm cells and supersedure cells. In hundreds of apiaries fine cells of the latter type are annually destroyed through being mistaken for swarm cells.

In swarming, a considerable number of cells is made, while in supersedure it rarely exceeds five and frequently is only one, two, or three; and these are usually not at the bottom of the comb. There are intervals between the dates of starting the cells, in order that the queens may not be due to emerge in batches as is the case with swarm reared queens. Further, there is not the same eagerness to rear lots of drones and there is no cessation of comb building, as with a swarming stock, as the time for capping the cells approaches. Finally there is no slackening of the queen's egg production to reduce her weight. These are all visible evidences, but there is also a subtle difference in the behavior and demeanor of the bees that is recognizable to those who know what to look for and listen for.

It is, of course, quite possible to cause any colony to commence supersedure operations. This was practised by the late John Silver, who was one of our leading comb honey producers. Silver used to snip off either a foot or a part of an antenna. It is of course well known that bees dislike having a maimed queen, since they will not retain one that has been over-clipped. Some may object to maiming a queen in this way.

From the point of view of the selective breeder it should be remembered that to breed for non-swarming too exclusively may result in breeding degenerate bees. After all swarming is a natural and vigorous instinct. On the other hand, if we work with perfect supersedure as our objective instead of non-swarming, combined of course with other desirable qualities, we shall only be employing and exploiting nature's alternative to the raising of queens by swarming. Remember, in swarming, the queens are not the prime object but a by-product that is necessary for the purpose. In supersedure the queen is the object of care and solicitude of the whole colony.

Given a realization of these facts one would expect to see the queen breeders' advertisements including in their list of good points claimed for their bees, something like this: "Possessing the instinct to supersede their queens without swarming or becoming weak."

An Experiment That Didn't Work

Last April we tried one experiment that was interesting, but didn't work. In bringing up package bees from the South we have to wait 21 days after the queen is released before the first young bees emerge. So the idea came: why not start some packages in the cellar the first week in April, and they will have emerging bees when set out in the open at the end of the month. So ten packages were ordered for early April and arrived in good condition on the 9th of the month. They were shaken into hives in the usual way and the queens placed so that they would be out in a few hours, the hives being placed in a dark cellar under the extracting house.

A day or two before the end of the month the hives were carried out at night same as if they had been overwintered bees. Inspection showed that the big idea had not worked. They had raised brood for a few days, possibly a week, and then had started to die off fast. The floors of the hives were thickly covered with dead bees. However, they had brood in one or two combs and made a fair recovery so that they were not inferior to the regular packages which came in on April 25. As a check, one package had not been placed in the cellar, but was hived outdoors on April 9th, the earliest we had ever started a package outdoors, and it was thriving nicely.

The bees in the cellar had combs of honey for feed and one comb was filled with water by spraying. However it may be that in the effort to raise brood they needed more water than they had, and the want of it caused the mortality. If not water, then what did they lack? And if we try it again, would it work if they had water in feeders?

Hy. W. Sanders,
Manitoba.

———ABJ———

Bees as Harbingers Of War

Honeybees were unknown in the northern part of our country when the white men first arrived. Later they were imported and spread throughout the country. Indians called them "the white man's fly" or, sometimes, "Boston bad flies," and considered their presence as a sign that the white settlements were being extended. As this was a frequent cause of war it may be said that the appearance of bees was a signal for the fighting to begin.

Walter H. Hull,
North Carolina.

The Beekeeper Has a Friend in Court

By J. E. Eckert,

California.

THE writer recently had the experience of being an unofficial observer at a public hearing on two assembly bills before the committee on agriculture of the state legislature. The first bill, A. B. No. 2138, was called an enabling bill permitting the county boards of supervisors to zone each county into agricultural sections in which the application of poisons could be made by farmers without any liability to damage done to animals other than those essential to the agriculture in the sections designated.

In presenting arguments for the bill, it was explained that in certain sections of the state the fumigation of citrus trees with cyanide was greatly hampered by injury occasionally done to rabbits and canaries on adjoining property due to the gas drifting beyond the confines of the fields treated.

In the discussion that followed some of the committee men raised specific questions in regard to the manner in which such legislation would affect the beekeeping industry and at least two members of the committee volunteered the information that honeybees were essential to agriculture and should therefore be included among the animals for which damage should be paid in case of injury. While the consensus of opinion indicated that the committee did not favor such class legislation, the motion to table the bill was lost by a single vote and therefore will come up again for consideration.

The second bill, A. B. No. 2140, read as follows: "The person lawfully in possession of any property, or any person employed by him, shall not be liable for any damage to any other person or property by reason of the use, in accordance with practices common in the locality or required by the commissioner, of any material or substance in the eradication or control of pests."

This is an evident attempt on the part of commercial interests to be released from all liability of damages caused by poisons that drift beyond the fields treated, and was so recognized by members of the committee, several of whom again called attention to the importance of the honey to agriculture and the need for its protection. The bill was tabled without anyone appearing before the committee to oppose its passage.

During legislative sessions, beekeepers should be constantly on the alert to defeat any measure that might be injurious to beekeeping interests as a whole and especially to such destructive bills as these two that have been mentioned. In fact, it is the opinion of the writer that it is a matter for the legislative committee of the American Honey Producers' League to formulate definite recommendations in regard to the action the Association should take at its annual meeting at Sacramento in November concerning the attitude of the Association toward the application of insecticides and their relation to the beekeeping industry. In California we have been fortunate enough to secure legislation that will prohibit the application of any poisons by commercial interests in any manner that will permit the poisons to drift beyond the fields of intended application in quantities lethal to honeybees or to domestic animals. Our correspondence would indicate that this problem is a national rather than a local one, and so should be given due consideration at our national meetings.

Before the above two bills were presented to the committee for consideration, one dealing with the standardization of potatoes was considered and the arguments for and against the standards proposed were quite similar to those heard in some of our own meetings on the question of honey standardization. While growers representing 70 per cent of the total potato acreage wanted to adopt the grades specified by the United States standards, a minority group thought the standards would do them untold injury because (1) they would have to wash their potatoes before they were packed for market; (2) they had established certain brands that were recognized in many markets and for which they now received a premium; (3) their potatoes varied in size and a large percentage of them would grade as seconds under the proposed regulations; and (4) if stricter regulations were adopted, ungraded potatoes would have to be sold at a reduced price and the present prices were already ruinous.

While listening to these arguments, the writer wondered if the beekeepers of this country had done all that should be done toward standardizing their product for the wholesale and retail market. We have standardized containers and in many states labels have been standardized so that the consumer can depend on what they say in regard to the contents of the container. But should we not attempt to adopt definite regulations that would require all honey packed in either retail or wholesale containers to be thoroughly strained and free from all foreign materials? Here again we have a national problem that should be given serious consideration at our national meeting this fall. Should the National Honey Producers' League make a definite recommendation in this matter and adopt a standard that will make honey compare favorably with other foods that compete directly with the sale of honey? What is your opinion?

—ABJ—

Oddity

I saw something this afternoon that I never happened to see before in all my years of beekeeping activity. I was extracting and working hives as I went along; pretty good flow on (scale picked up over two pounds, best in two months). Weather just sunny and correct. I was sitting on running board of car resting a few minutes when a slight disturbance very suddenly developed in the atmosphere, sort of like a miniature cyclone. A cloud came up in three minutes, with a cool wind, sort of dark and a very slight tinge of moisture, all from a mild clear sky. In five minutes the bees returned, I first noticed it by their roar. They flew in so fast they could not get into the hives. Great piles of bees at every hive, several pounds of them, like swarms, and they didn't all get into the hives before I left the yard. The whole air was black with them and a roar like one never heard before. This was the first time I ever saw that sight. I had left a wheelbarrow with an empty super parked in front of a hive. It had a good sized swarm all over it when I went to store it away. It didn't rain at all, but remained cool and cloudy.

Jes Dalton.

Klotz Honey Products

When the writer was in New Orleans last fall attending the national meetings, at the Louisiana Comb Shippers' banquet he was seated next to W. C. Fletcher, manager of the Klotz cracker factory, of New Orleans. If all bakers were as good honey enthusiasts as Mr. Fletcher and his company. it would not go amiss for the honey industry. He had for sampling various crackers and cookies in which honey is the chief sweetening ingredient. Some of those manufactured by the Klotz company are shown here.

Mr. Fletcher and his master baker, Mr. Lange, both favor local honeys, as they have properties which make them especially desirable in their baking formulae. When one considers that Klotz employ 125 people, distribute in 12 trucks, and have a territory covering 10 states, it is apparent how very valuable to the honey industry influence such as theirs can be. M. G. Dadant.

—ABJ—

Here is a picture of the apiary display at the Nova Scotia provincial exhibition in September, the usual motive being educational, not competitive. The display was arranged jointly by the beekeepers' association and the Department of Agriculture.

H. G. Payne,
Provincial Apiarist,
Novia Scotia.

Are Carniolans in Big Hives the Answer?

Surely geographic location makes a difference on many bee and honey production questions and goes far toward accounting for most of the controversy in our journals, for instance, concerning hive and brood nest size. I am a Modified Dadant believer, yet I can see where, if Granddad Dadant had "beekept" in New England, especially Massachusetts, where I started, he would never have evolved, or certainly would never have pushed, the big brood idea.

After experience with all three races I have said many times that success is more a matter of breeding selection for the best in any race, than of basic difference between races. Some degree of disease resistance and gentleness, as well as prolificness and honey getting qualities can certainly be obtained by painstaking selection and queen-rearing by an experienced master. But this takes time and too much puttering for most busy men.

My experience coincides well with the recently reported Iowa experiment, slightly favoring Carniolans. I have for a long time felt the dark bees have certain definite advantages, especially real gentleness, not so-called gentleness, and, with Carniolans, quick build-up and prolificness. However, my necessity of having to visualize the dark queen about twice yearly in a crowded hive had kept me for awhile from declaring for Carniolans.

This past season I became thoroughly disgusted with my leather Italian dagger wielders (bred for their Nosema resistance) and have found the solution in the Jan Strgar strain of imported Carniolan queens permanently marked with a brilliant green disc carrying a number for identification.

Does prolificness of Carniolans make them greater swarmers? Probably yes, if you insist on keeping them in small hives and brood nests, but this is sticking to the old and makes for low and expensive honey production. I believe swarming impulse is not so much a matter of difference in race as of condition of brood combs, ventilation, size and crowding in hive, the season, condition of honeyflow, age and condition of queen, and you name other things.

For all those who are not too "sot," I commend a trial of the Carniolans; but keep in mind that they need more room after mid-build-up time. Of course most Carniolans are now in standard hives and with extra supering they work.

If you differ later, let's call it difference of location.

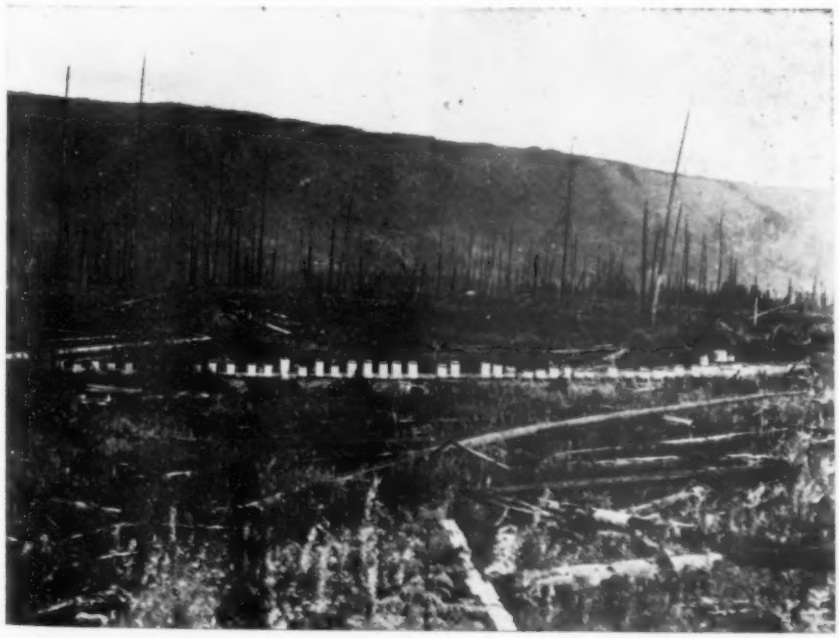
Waldo Horton, Florida.

British Columbia

These pictures show bee camps at Cowichan Lake. The disturbance in the foreground is due to the visit of a bear which pushed over one hive and got away with seventy pounds of honey. It might interest you to know of our annual migrations to the fireweed. In 1937 there were three main camps at Cowichan Lake which is in the hills, about sixty miles up the island from Victoria. We bunch our colonies in apiaries about one and one-half miles apart. The picture shows No. 3 camp, Vancouver Island Beekeepers Association.

The work was begun by our Secretary, A. H. Curtis, to whom the rest of us owe much. He runs the Curtis Camp No. 1 which is in the nature of headquarters. We use tents and take alternate weeks in our camps. Very quiet work, right in the wilds with practically no visitors. The second picture gives you a good idea of the nature of the country. One would hardly associate such burnt out country with bees, but actually, in season, the country shows pink in all direction with fireweed.

We all follow similar methods and use the same standard equipment. We much favor the inner cover with which all hives are equipped. It is the plainest possible and merely has one hole for bee escape or feeding for winter, covered with glass in the season.



The year 1937 was notable in one respect for we all practically dispensed with the excluder with most satisfactory results, the queen rarely coming up from the brood nest. All hives are inspected before the trek north and we each receive a certificate to ship so many colonies in order to offset any introduction of foulbrood.

Our colonies get local crops up to the end of June and about July 1 we go north, largely with new queens, and remain until about the first week in September. Roads are very rough in the hills and the colonies get considerable shaking, with some loss.

In Brother Adam's methods of moving described in the Journal (Buckfast, England), he describes a comb fastener to offset shifting of combs. I have myself devised a spacer totally different, but quite efficient. A ⅝ inch strip of pine fits in the hive right over the lugs of the frames, with ½ inch projections which extend down between the lugs. One of these fits snugly at each end and is held in position by the traveling screen which is 2½ to 3 inches deep.

Edgar Scholes,
British Columbia.

ABJ

To Make Foundation Stick

The commonest error of the side line beekeeper is failure to get supers on in time; and the commonest cause of this failure is the bother of putting up sections—especially fastening in foundation. It is surprising how many do not clearly understand how foundation is fastened. It was a county agent who called my attention to the real trouble, though he did it in reverse, as you might say. He knew a lot about bees, but had never had opportunity to master the practical side of the business. He was using split sections, "because," he said, "when putting in foundation with the hot knife the knife is so likely to **melt the edge of the wax.**"

I think that what he had been trying to do was to place the edge of the wax against the wood, then by bringing the knife in contact with it, to sort of **weld** the wax onto the wood. The correct procedure, of course, is to melt the edge of the wax, by bringing it down against the hot knife, then remove the knife and press the wax onto the wood before it cools.

Another way, though slower, is to dip the edge of the foundation into a pan of melted wax, then press it onto the wood before it cools. This must be done before the sections are folded.

Walter H. Hull,
North Carolina.

Young in Heart

"WE are only as old as we act" seems to fit Mr. and Mrs. Sherman, of Elkhorn, in southeastern Wisconsin. I do not know how old they are nor how many years they have kept bees, nor even how successful they have become; but I do know they are young enough to enjoy living.

For many years now they have gone for a swim every evening in the lake adjoining their property, weather permitting. The word picnic can make them as excited over preparations as a fourteen year old, no picnic spot being too far away for a happy outing.

They have stayed young enough to enjoy each other's company down through the years. They work together in all things, from wrapping enormous amounts of comb honey to picking many varieties of grapes clustered along the endless rows of heavily laden vines. They have made their home comfortable and hospitable to the guest, their table wide and plentiful, living each day as it comes, doing a day's work for a day's pay and will, until they are carried down the road a piece, God willing, together.

Her hair might well be chestnut colored and vibrant, her arms smooth and slim, the bloom of youth on her cheeks; his face might well be smooth and unlined, his body erect and supple, a lifetime to live before him —for they are young in heart.

M. Francis.

Left, Mr. and Mrs. Sherman. Below, their apiary.

—ABJ—

Probable Origin of Term "Bee Gum"

In the early history of beekeeping in Wyoming, many colonies of bees were housed in boxes, barrels, sections of bee trees, etc. No matter what they were housed in, it was called a "gum." I have always wondered where the term "bee gum" originated. A short time ago while reading of Bradbury's travels (1809) I came upon the following explanation.

In early days, pioneers were hard put to find ways to line water wells, salt wells, make grain tubs, and the like. In order to prevent wells from caving in they were lined with sections of hollow trees carefully selected for the purpose. After finding a desirable tree, it was cut down carefully to prevent splitting and then sawed into the desired lengths. According to Bradbury, "Any portion so cut off is called a gum, a name probably arising from the almost exclusive application of the gum trees to this purpose, for although many species of trees are liable to become hollow, yet none are so perfectly hollowed as the gum tree. These trees, as I am informed, are often found so completely hollow as to leave the sound part not more than an inch in thickness, and the inside surface perfectly smooth."

Since wild bees were commonly found in trees, it was natural for early beekeepers to use a "gum" for housing swarms. Indeed, this was the accepted method before the movable frame hive was developed.

Bee gums are still found in many parts of the United States. There are none in Wyoming for this state long ago passed a law prohibiting the use of any beehive not having movable frames.

C. H. Gilbert, Wyoming.

—ABJ—

Watering Plan for Bees

Reproduced below is a photograph made by Carl E. Killion, chief apiary inspector for Illinois, on one of his trips about the state. It is a device for watering bees in the apiary of Frank Desort, Lincoln. From a faucet in the bottom of an old honey tank, water is allowed to trickle slowly down an inclined board on which baffles are placed at intervals to deflect its course and so make room for many bees to drink. At the base of the board the water flows into a shallow concrete pool in which light boards are floated for the bees to rest on while drinking. When such excellent provision is made for one's apiary, there is not likely to be trouble from irate neighbors when their stock watering troughs are visited by bees in early spring.

What About It, George?

George Rea, at a recent dinner of the Rockland and Bergen Counties (N. Y.) beekeeper, was at his best. Scorning the need of notes or copy, he spoke for an hour, covering all phases of beekeeping with his own way of life, his ideals and experiences.

One chance story is recalled. It relates to his experience with Mel Pritchard in the Everglades of Florida. Chancing, one noon, after a morning's tramp, to enter a farmyard, they met a farmer who was greatly enamoured with George's automatic 22 rifle carried as a precaution against animals and snakes. Fitting the gun comfortably against his shoulder at a propitious moment when a rooster chose to round the corner of the barn, the trigger closed and the rooster's career was ended.

George felt that such a loss was a shame, but the farmer waved feeling aside and said, "We'll have it for dinner." Being a night watchman at a nearby saw mill, he had to leave shortly after. His wife prepared the dinner. Upon being summoned to the meal, both men looked askance at the receptacle in which the food had been prepared recognizing an object intended for other things. Mel decided he was not hungry. George said, "Nothing doing, we-ve a long trip ahead of us, and no other food in sight." So they made a brave attempt. George, with one of the only two forks available, fished in for the leg. He brought up a leg, but on it was still to be seen the feet, nails and part of the barnyard. Thinking to try for the other end, he found the neck, head hanging on its clipper vertebrae; eyes and comb still intact. Not daunted, however, George finally found a piece which would not be entirely antagonistic to his internal feelings.

At the conclusion of his remarks, George passed out an idea, for the sake of which I am really writing this, to quote him "Some day, I may be encouraged to write a book on my experiences." Can we get George to do this very thing? It might be a hardship to George, but a gift to the profession.

John F. Hopf, Jr.,
New York.

—ABJ—

Farm Chemurgic

The National Farm Chemurgic Council, research agency for the industrial use of American farm products, is now located in Columbus, Ohio, with Dr. Harry E. Barnard, Director of Research and Editor of the Farm Chemurgic Journal. Beekeepers will remember Dr. Barnard as the founder of American Honey Institute and more responsible than any one individual for the original success of that helpful organization.

Farm Chemurgic has as its objective the discovery of ways in which farm products may be used in industry. We have often thought there are industrial uses for honey. It is admirably adapted for other foods as a sweetening agent, but several uses have been found which are not concerned with food. It has been used in the curing of pipe bowls, the curing of leather, as a center for golf balls, and as an ingredient of poster's paste.

Wherever a simple sugar is of value, honey offers a possible use. Lately, a manufacturer of livestock food interviewed us with the idea that if honey can be proven to be a good ingredient of fattening rations, there may be an outlet in that field.

In baking honey was supreme until the beekeepers began furnishing any kind of honey in any condition to the bakers. Now the bakers are quitting. Some remain favorable, since they have sources of supply on which they can depend.

Too bad beekeepers ruin their chances like this. One baker uses honey in white bread and, of course, it must be of the highest quality honey in the best possible physical condition. The source of supply must be constant and reliable. Beekeepers, however, are passing to the baker their worst, not their best.

Honey in candy making is common, more than thirty-five companies using honey to some degree. Graham crackers from two of the largest makers use honey for sweetening. Yet considerable research is needed in honey uses. It should fit the Farm Chermurgic program, even though honey is a minor farm product.

Honey Selling Problems

By Mason Dewey,

Oklahoma.

NINE years ago when we first began beekeeping, I thought that honey production was the main part of apiculture but now I have come to the conclusion that the selling end is fully as important as production.

On the start we worked up a reputation for a fine quality honey. On our label we had printed, "Scientifically Produced," which helped to draw attention to the fact that the honey was clean. Ninety per cent or more of our customers tell us that we produce the best honey that they have ever eaten. They sometimes buy cheaper honey that has been produced in the West or elsewhere but they soon come back to us for honey, saying that they did not like the other.

This is hard for us to understand as our honey comes from only sweet clover which is common as a honey producer. We practice every method that will help to eliminate foreign flavors in the honey, such as using little smoke when removing the surplus and taking the honey from the hive as soon as it is well ripened but not before. We use only the new standard pint and quart jars. Some people prefer these as they can be used for canning purposes when emptied.

In order to sell honey one must talk honey to everyone. Another stunt that helped us advertise was through the Four-H-Club work where we put on a beekeeping demonstration. Winning first in the district and later in the county gave us the privilege of representing our county at the state Four-H-Club round-up last summer. There we placed first in entomology and second in the state over all boys' team demonstrations.

Exhibiting at the county fair is an opportunity often overlooked by the beekeeper. So many of our customers say, "I saw your honey at the fair."

At socials or bazaars held at the local church they often sell homemade candy donated by the members of the church. We usually take advantage of the opportunity to advertise honey by donating some kind of honey candy.

I believe the future of the honey industry lies in the hands of the small beekeepers who must keep the public "honey conscious."

The Editor's Answers

Filtration

How does filtration affect the granulation of honey? We have a very light gallberry and a somewhat darker grade which contains a little poplar. This darker grade is difficult to move. Perhaps filtration would help. We have heard that dark honey may be made light in color without hurting the flavor.
GEORGIA.

Answer.—Filtering with the heating and removing of very small particles which tend later to hasten granulation will naturally increase the period of time during which honey will remain liquid. The speed with which honey will then granulate depends to a large extent upon the balance between dextrose and levulose sugars in the honey. If the levulose content is high, the honey will granulate slowly. I do not know whether gallberry which you use is a rapid or slow granulator. Tupelo mixed with gallberry should reduce the time of granulation, since pure tupelo honey granulates only after a long time. Any filtering outfit which will remove the tiny solid particles in honey will reduce the danger of granulation considerably.

In order to remove the color in the filtered honey it is necessary to use boneblack in sufficient amount with the filter medium to reduce the color to the desired point. It will not hurt the flavor. However, there is some question whether decolorized honey is permissible under the Pure Food Law.

[Messrs. C. P. and Ed Bradley, Hazelhurst, Georgia, whose question is answered above would be pleased to hear from readers who have had filtering experience.—Ed.]

———ABJ———

Northern Divides

In making divisions, should I receive queens from southern breeders and divide the bees, giving the queen directly to the queenless division?
NORTH DAKOTA.

Answer.—It would be advisable in your locality to buy your queens from southern breeders and have them in ample time to introduce to your divided colonies, rather than to try to raise them yourself. It would probably be later than June 1 before you could get satisfactory matings as far north as you are.

In the division of a colony, the queen should be left on the old stand; the new divide should be placed in a new location and given a new queen. Ordinarily, what we do is to make one divide from three colonies, having plenty of colonies to draw from.

———ABJ———

Queenlessness

I wonder if I have disease in my bees. I first noticed some dead bees out in front of the hive. All the bees in the hive had a very dark oily color. The bees continued to die until there were no more left.
IOWA.

Answer.—You have given a partial description of a colony which has become queenless and has died because of its inability to reproduce itself. When bees become old they invariably acquire that dark appearance you mention. Normally, bees have fuzz on parts of their body and when they are old, this is worn off and they glisten when the sun shines on them. Sometimes they look as though oil had been poured over them.

There may be a few of these shiny bees in the best colony, but when all the bees in a colony have this appearance, it is a sure sign that something is wrong, and that something is usually the absence of a queen.

———ABJ———

Combs Containing Dead Bees

We have two hives of bees which died during the winter, leaving the bees clinging to the frames. The combs are in good condition and more than half full of honey. Could we hive bees on these combs?
IOWA.

Answer.—Shake off or brush off as many of the dead bees as you can and give these combs to a good strong colony, or put bees on them when you are ready to hive your first swarm. Until you are ready to use them, keep them in a dry place. If there are some bees which have died and dried up within the cells, don't worry about them, as the new swarm will clean them out.

———ABJ———

Ornamental Honey Plants

Which honey plants can be grown in small plots, as flowers? Is there a list of them? Where may the seeds be bought?
NEW YORK.

Answer.—Small plots of the clovers and such farm crops as alfalfa and buckwheat can be grown in small plots, but the more showy ornamentals which are also good honey plants are perhaps better for small areas. The cleomes are especially good. They are annuals, quick growing, and make a big show in bloom. There are three of them: the spider flower, **Cleome spinosa;** Rocky Mountain bee plant, **Cleome integrifolia;** and a new one, Golden Cleome, **Cleome lutea.** This last one is the best of them all.

Many old-fashioned herbs are good honey plants. Try catnip, horehound, motherwort, and thyme. Thyme has run wild in some parts of New York to such an extent that it makes fine bee pasture for a few fortunate honey producers.

A complete list of arnamental honey plants would be impossible here. Reference to "American Honey Plants," Frank C. Pellett (American Bee Journal, $3.00) is suggested. Vaughan's Seed Store, Chicago, offers a large variety of seeds not commonly available.

———ABJ———

Aluminum Paint

Is aluminum paint a good paint for beehives?
NEBRASKA?

Answer.—Aluminum paint seems to make a satisfactory paint for beehives. It is comparatively cheap and wears well and is about as good a heat reflector as ordinary white paint. The beekeepers of the North and West are now using aluminum paint almost entirely for painting their beehives.

———ABJ———

Fermented Pollen

I have a super of combs from which I extracted the honey last fall. There was some pollen left in the combs and it has fermented. Will it be all right to give these combs to the bees, or would it be better to clean the combs down to the foundation and let the bees build them up anew?
MAINE.

Answer.—Use the combs just as they are. If the colony is at least moderately strong, the bees will clean out all of the sour pollen and other refuse which may be in the combs.

———ABJ———

Surplus Bees or Surplus Honey?

I have three hives all ready to be used. I have concluded that it would be a good plan for me not to try to get any honey this year but to proceed with making increase, as this would dispense with swarming and I would become acquainted with phase of beekeeping. I have a place of about two acres, with an orchard of various fruit trees, pussy willows, all sorts of flowers and clover along the railroad embankment, an ever-running stream and everything else which favors bee raising in great style. My place is located 28 miles west of Chicago. Do you think it a good idea to begin by making increase rather than to try at first for surplus honey?
ILLINOIS.

Answer.—Yes, your idea is all right. I think you could increase the three colonies to about nine. Wait until about the middle of the spring dandelion flow or fruit bloom period and make two additional colonies out of each of the ones you now have, with new queens purchased from the South. If it is possible for you to move the divided parts to a location at least two miles or more from the yard where they were made, the adult bees cannot fly back to their original location. If you stop this return flight your division will remain as large as they were when they are made. Otherwise they will dwindle badly. Later they can be put together again, say, after about two weeks.

Of course, you will need hives for each divide, bottoms and covers, new queens, and you probably should feed them until they are able to feed themselves. We use 10-pound friction top pails, mixing half sugar and half water, using hot water until the sugar is dissolved; put three small holes in the centers of each of the lids of the pails, and put the pails upside down over the cluster of bees and surround the pails with cloths and an empty hive body so that the top may be covered and no robbers can get in.

With this way you ought to have nine pretty fair colonies at the time of the fall flow if there is any fall flow in your location. You may at that time need one super for each colony. I could not say. It would be better to wait and see what the prospects are. These colonies so divided may also need extra hive bodies some time during the clover flow this year. If they do, then I think you should take some of the combs from the bodies already occupied and put these drawn combs into the new addtional bodies which you are giving, so that the foundation will be that much faster drawn out and used. This should leave you at the beginning of the fall period with nine colonies housed in two-story 10-frame hives, if that is what you use. If you are using the large hive, two stories will be necessary.

Meetings and Events

Illinois State Beekeepers' Association

Tour and meetings of the Illinois State Beekeepers' Association will start Friday, June 23, at Rocke Brothers, one mile west of Eureka on U. S. Highway 24, at 2 P. M. Rocke Brothers operate over 500 colonies. Here you will find an up-to-date honey house and equipment and many interesting developments in extracting.

Evening meeting will be held in the Eureka High School Auditorium at 7:30 P. M. with moving pictures and other entertainment.

Saturday, June 24, the tour will start at the apiary of Frank Durkee in South Ottawa at 8 A. M. Mr. Durkee operates over 400 colonies. From here the tour will take U. S. Route No. 6 to Morris, with short stops at the apiaries of C. Anderson and Edny Hendrickson, arriving at the home of L. L. Ness, 6 miles east of Morris on Route 6, at 1 P. M. Mr. Ness is a commercial producer with an apiary of 1000 colonies and fine equipment. From here the tour goes on Route 47 to the apiary of Ross Morrill, 5 miles south and 1 mile east of Elburn. Mr. Morrill, a deputy inspector, has an apiary worth seeing.

The evening meeting cannot be announced at this time. Arrangements are being made for moving pictures and discussion of disease.

Speakers on the tour will be representatives of the Dadant and the A. I. Root companies; Dr. V. G. Milum, of the University of Illinois; and Carl E. Killion, Chief Inspector of Illinois. Among other speakers expected are Jas. I. Hambleton, Chief Apiculturist of Washington, D. C.; Jas. E. Starkey, Chief Apiary Inspector of Indiana; and L. R. Stewart, of Newport.

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New Law for Wisconsin

A measure which prohibits the sale of any merchandise by retailers or wholesalers, at less than cost, became law in Wisconsin with its official publication May 4.

Cost to retailer and to the wholesaler, as defined by the act, provides for a six per cent markup for the former and a two per cent markup for the latter. The statute gives the courts jurisdiction to restrain violations of the act and district attorneys the power to institute action against violators.

Penalties provided for under the law are fines ranging from $10 to $500. The statute holds that "the practice of selling certain items of merchandise below cost in order to attract patronage is generally a form of deceptive advertising and an unfair method of competition in commerce.

"Such practice," the law relates, "causes commercial dislocations, misleads the consumer, works back against the farmer, directly burdens and obstructs commerce, and diverts business from dealers who maintain a fair price policy."

Excepted from the provisions of the law is merchandise sold in bona fide clearance sales, if advertised, marked and sold as such; perishable merchandise; imperfect or damaged merchandise, advertised, marked and sold as such; merchandise sold upon the final liquidation of any business; merchandise sold for charitable purposes or to relief agencies; merchandise sold on contract to departments of the government or governmental institutions and merchandise sold by any officers acting under the order or direction of any court.

H. C. Brunner,
Wisconsin.

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Ingersoll Memorial Park, Rockford, Illinois.

Illinois State Beekeepers' field meet, Sunday, June 25, 10 o'clock. Among the speakers will be V. G. Milum, H. F. Wilson, E. R. Root, Carl Killion, C. L. Farrar. There will be entertainment, also other speakers whom we cannot announce at present.

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Prominent North Carolina Beekeeper Dies

We regret to advise our readers of the death of R. W. Scott, of Bolton, North Carolina. His death occurred on April 18. Mr. Scott was operating in the neighborhood of 1000 colonies of bees. He had been one of the pioneers in the later phases of commercial beekeeping in North Carolina. Mr. Scott has been mentioned in our columns a number of times in connection with the depredation from bears along the swamps of the Atlantic coast. Nearly all of his apiaries were surrounded with high fences to keep out bears and Scott had traps and caught many bears around where his bees were located.

—IBJ—

New Officers in Utah

Arthur G. Pledger, president (left), A. W. Anderson, secretary of the Utah association for the current season.

Photo by Glen Perrins, Utah.

North Dakota Bee Inspection

The North Dakota beekeepers are endeavoring to get a change in their laws which will allow a little more rigid inspection. One feature of the law is that for every colony of bees inspected by a state bee inspector, there shall be a payment to that department by the beekeeper of 10 cents. In other words, it will cost the beekeeper 10 cents for every colony inspected up to 100 colonies, and 5 cents per colony for each over 100, the minimum inspection fee being 50 cents.

There is also proposed a bill establishing a beekeepers' license which will license all colonies of bees within the state of North Dakota. The license fees will be about as follows: $1.00 for from 1 to 10 colonies; $5.00 for 11 to 50 colonies; $10.00 for 51 to 100 colonies; $15.00 for 100 to 200 colonies and $25.00 for anything over 200 colonies. Penalties are provided.

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Maryland Gets Inspection Service

The Maryland State Legislature recently appropriated $2,000 a year for bee disease inspection. An effort was made by the beekeepers to obtain $3,000 but, considering the drastic budget cuts made by the new governor, we feel fortunate in obtaining $2,000. The money will not be available until October 1. In the meantime, George Abrams, state apiculturist, is making plans to inaugurate an inspection service that will bring foulbrood under control. The work will be under the direction of Dr. Ernest N. Cory, state entomologist.

Harold L. Kelly,
Maryland.

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Southern B ekeeping States Federation

President M. S. Fortune and Dr. Clay Lyle, members of the program committee, have notified me that the date for our Southern Beekeeping States Federation meeting at Vicksburg, Mississippi, is October 30-31.

The Mississippi State Association and the Delta Beekeeping Association will act as hosts. The program committee have not promised that "we can see angels flying around," as Ned Prevost did last year at Charleston, but they have promised that this will be an old-time beekeepers' meeting, where friends get together and all have a good time. They have an interesting and entertaining program planned for us.

Vicksburg has many points of historical interest and many will see the great Mississippi River for the first time. Make your plans now to attend.

A. V. Dowling, Secretary.

California Beekeepers Know How

The National Beekeepers' Convention to be held this year in Sacramento, California—November 7 to 10—will lay another milestone in the history of the industry. Aside from the vast knowledge to be gained by attending the meetings of this group, there is much to see at the locale of the convention headquarters. Sacramento, the capital of the state, is the very heart of the intense historic lore connected with California for it was a few miles from here that James Marshall discovered gold some 90 years ago. It is situated about 80 miles north and east of San Francisco, and about 250 miles west of Reno over the memorable Donner Trail.

It was in 1855 that the first bees reached Sacramento. For some unaccountable reason, they soon perished. The next attempt to establish bees in this valley was four years later when Mr. Harbison brought in 103 hives. Today there are three score beekeepers in Sacramento County, owning approximately an aggregate of 4,000 colonies.

"California Knows How" is a password of the State Chamber of Commerce. To this adage we add "California Beekeepers Know How." With this slogan to live up to, you may be sure every beekeeper in California—and there are more than 6,000 of them—will do their best to put on one of the biggest and best shows ever held at a national get-together.

At the present writing, little is available concerning the details of the program, but it will, of course, include discussions on the ever perplexing problems of the industry. Besides, there is always a wealth of new ideas springing forth at such gatherings, for all beemen are experimenters by nature. Just as other lines of endeavor must be kept up-to-date if profits are to be shown, so must beemen know what's going on in their industry if they are to compete with other honey producers. That's why we hold these conventions, and the seemingly small part that each individual attending these meetings contributes to the conclave as a whole cannot be overemphasized.

Although many will have only sufficient time to attend the convention, many plan to make this trip their annual vacation and see some of the wonders of the West.

If you come by way of Spokane, don't fail to see the "biggest thing on earth!" It's the Grand Coulee Dam. Located ninety-two miles west of Spokane in Central Washington, the Grand Coulee awes all who come and tells how the mighty Columbia River, rising in the snows and mountains of Canada and Montana, is but as the smallest stream compared with the Columbia of days gone by.

The dark porous walls, streaked with greens and reds on the Coulee tell of the lava torrents that fought their way over this area for seven successive times, each period taking place only after hundreds of thousands of years had elapsed. After the last lava flow, an ice sheet, said by scientists to have been 4,000 feet thick descended from the North. It carried huge quantities of boulders and gravel, and blocked the bed of the river, forcing this mammoth stream to cut the ground Coulee has for its valley.

Fifty miles long, the Coulee is a chasm several miles wide, with walls of rock towering in places a thousand feet. As the prehistoric glacier retreated the Coulee was left dry, for the Columbia went back unhindered to its original course. It is where the water once broke through to form the Coulee that the United States Government is building the world's greatest dam.

As the visitor reaches the high cliffs where the road begins its descent to the Coulee and the Columbia, he stands amazed at the pioneer towns that have sprung into being. Hundreds of feet below, the unpainted wood houses nestle on the flats. Behind and below are the jagged rocks dotting the yellow of the slopes of sand and dried grass. From the next curve, the bend of the Columbia is visible, with hills across continuing on into the distance—truly a panorama of splendor.

Children are going to school in new schoolhouses, while past their classroom windows hurries a procession of station wagons of engineers, or heavy trucks hauling machinery to the damsite. There is the sharp clang of giant steam shovels as they bite into the hills of sand and powdery volcanic ash and the sound of blasting comes intermittently.

The mighty river is beginning to feel its harness. Almost submerged, the great foundations, which will ultimately support the 4,300 foot structure, now contains more concrete than in all of Boulder Dam, and Grand Coulee is just about half complete. When finished it will be the largest man made structure, even dwarfing the great pyramids of Egypt.

From a pit high on the hill, belt conveyors, carrying gravel that has been screened, washed and automatically sorted as to size, enter the giant mixing plants, truly termed "House of Magic." Here the aggregate is mixed with the cement to form the concrete for the dam which will rise in a gigantic mass four

times the volume of the great pyramid before mentioned.

Downstream a short distance, the government has built a model town for its engineers. Across the river the contractor has established the workmen and their families in the world's first all-electric city.

Up the hill and away from the river, one enters the upper section of the Grand Coulee—that portion of the wonderland to be used as the giant reservoir. A big pumping station will raise the water backed up by the dam into this natural rock-lined canyon from where by means of many canals it will flow out to reclaim the fertile acres of the Columbia Basin.

Seven miles from the damsite is Steamboat Rock, which towers 900 feet, more than one and one-half miles long, and one-half mile wide. It was left as an island when the magnificent prehistoric water divided and cut back on either side of the great rock to the Columbia.

At the entrance to the lower Coulee the Great Canyon opens downward where a mighty cataract once poured over a sheer drop of 417 feet. Nearly five miles in width, one can hardly comprehend what the magnitude of Dry Falls once was. Here was indeed the most gigantic water fall of all geological history. This lower Coulee, when Grand Coulee Dam is complete, will remain for the wonder of the visitor. It is even more spectacular than the upper Coulee. In some places about a mile in width, the sheer rocks of its western walls rise 1,000 feet.

Vast treasures of romance are stored in western valley and mountains—the Grand Coulee is just one of them. Such are the joys that await the beekeepers who go west in 1939.

—ABJ—

Wild Bees

About the comments on pages 128 and 129 in the March issue about wild bees, here in South Dakota a mixture of Caucasians, blacks and Italians made a combination that has put foulbrood in many trees and houses. They rob for honey and bee glue and when they swarm they go into the places they are robbing. If the place they enter is small, they soon die, if it is large, they move away from the disease and the bees prosper.

Because of hard times, the undesirable bees are gone. Italian bees, which stay and fight, develop immunity. Such bees should be saved, others killed.

T. A. Myers,
South Dakota.

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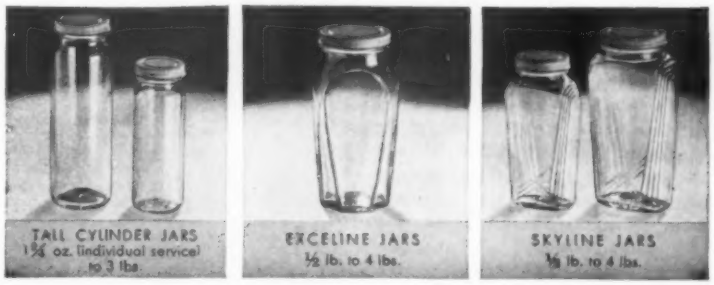

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Sioux City, Iowa, July 10-11

The Central States Beekeepers' Association will be guests of the Iowa Beekeepers' Association at Sioux City on July 10 and 11. The local association cooperating with the Sioux Honey Company will serve as local hosts for this meeting. The states which will be most interested are Minnesota, North Dakota, South Dakota, Nebraska, Kansas, Missouri and Iowa.

The two-day program will be made up of speakers representing the various states and national speakers will be obtained for program facilities. Local apiaries will be inspected as it is possible to organize tours. The local honey packing plants will also be inspected. The details of the program will be given in the next issue.

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Wisconsin Meeting

Mr. and Mrs. I. W. Johnson were hosts to the regular meeting May 8 of the Winnebago Beekeeper' Association at their home near Oshkosh, Wisconsin. William Nelson, president, presided at the business meeting. A luncheon was served later with Mrs. Arthur Blummer in charge. The next meeting is scheduled for June 12.

H. C. Brunner,
Wisconsin.

— o —

Sheboygan County Meeting

James Gwinn of the department of markets at Madison addressed the Sheboygan County Beekeepers' Association April 19 at the Plymouth, Wisconsin city hall. Mr. Gwinn advocated the establishment of a good grading system.

"We have a system of grading passed in 1921 and it is almost prehistoriy," he said. "Too many beekeepers get around it by labeling their honey 'ungraded.' We have now one grade of honey in five colors and the department requires you to label it thus or to name it ungraded.

"As a result of meetings held when this was discussed, suggestions were made to have two colors of honey, white and amber, and in both colors have a number one and a number two grade. Thus if honey does not meet the requirements of number one grade, it will be the second grade and not labeled 'unbranded' as is often done now."

The present colors of honey are water white, white, light amber, amber and dark, and it is very hard to draw a definite line between the colors, Mr. Gwinn said. He urged beekeepers to pay attention to quality instead of color.

Mr. Gwinn lauded the work done by the American Honey Institute and explained how through its woman director a market for honey of fields, especially among housewives. quality is being opened in many new

Heating to remove specks, mainly wax, was discussed by Mr. Gwinn and several methods explained. An improper method will result in poor appearing honey and will tend to decrease the market in time, it was pointed out.

A report on marketing honey was given by Jacob Weigand, Sheboygan, who said that a display could be arranged in conjunction with apple show in fall. Louis Pierron, Plymouth, presided at the meeting.

H. C. Brunner,
Wisconsin.

—ABJ—

Canadian Honey Statistics

The Dominion Bureau of Statistics has published a report of the production and value of honey and beeswax in Canada. It "contains statistical data on apiculture including estimates of the numbers of beekeepers and apiaries, the production of honey, and the value of honey and beeswax in Canada for the years 1924 to 1938. These data have been revised in cooperation with the Dominion and the Provincial Department of Agriculture. While data for the earlier years are incomplete these revised estimates present a reasonably accurate picture of the general trend of honey production over the past fifteen years."

Honey production, says the report, is steadily increasing in Canada, having more than doubled during the past fifteen years. However, prices have declined during the same period.

Copies of this two and one-half page mimeographed report may be had from the Dominion Bureau of Statistics, Ottawa, for 10 cents.

—ABJ—

John F. Otto

We have been informed of the death of John F. Otto, 77, state leader in beekeeping in Wisconsin, and active for many years in Calumet County.

Born at Reedsville in 1861, he moved to Forest Junction 54 years ago. He attended North Central College at Naperville, Illinois. He was postmaster at Forest Junction and held various town offices, including clerk, justice of the peace, and town chairman; for twenty years he was a member of the county board and a director of the Forest Junction State Bank.

As a beekeeper, Mr. Otto won prizes in honey exhibits at the Milwaukee State Fair. In 1934 Mr. Otto and his wife observed their golden wedding anniversary. So beekeeping loses another prominent man.

—ABJ—

Eva Stewart's Exhibit

As a project in her food buying class at Wayne University, Detroit, Eva Stewart assembled an exhibit of honey and honey products which was displayed in the main building of the university. The exhibit attracted considerable comment and even promoted some honey sales, thereby proving its adequacy as an agent in consumer education.

Crop and Market Report

Compiled by M. G. Dadant

For our June report, we asked our reporters to answer the following questions:

1. How much honey is left on hand in your section?
2. How is the new crop so far?
3. Condition of bees compared to same time last year.
4. Condition of honey plants as compared to 1938.

Honey on Hand

There is no doubt that the amount of honey on hand this year carrying into the new crop season is going to be considerably more than it has been for several years past. We are not to be surprised at this in view of the fact that undoubtedly the total crop in 1938 was the heaviest we have had since those years immediately following the war. The heavy carry over of honey seems to be chiefly in the intermountain territory, with a considerable quantity also in both Michigan and Ohio, and quite a lot of scattering individual crops throughout the balance of the country.

The entire eastern section and along the southeastern seaboard carrying across the entire South as far as California, seems to have very little honey left. The plains states and the Dakotas and Minnesota also seem to be fairly well cleaned up. Some honey still remains in Wisconsin, some scattering lots in Illinois and Iowa.

New Crop

Naturally, in all the northern sections of the country, the new crop has not yet come in. In most instances where weather permitted the stimulative minor flows have been very satisfactory. Crop conditions seem fairly good in the southeastern states with considerably less than normal conditions in Georgia, and probably normal in Florida. Southern Texas reports only moderate crops. Louisiana probably has less than average, also in Texas the crop has been extremely disappointing on account of the drought. The same conditions exist in New Mexico and Arizona.

It is in California that we see the greatest contrast over last year. The orange crop has been a disappointment owing partly to drought, but more particularly to foggy, damp conditions, and many report the orange crop as less than 30 pounds per colony.

In addtion, black sage has been a disappointment and dry conditions in the outer areas would indicate that the later crops are not going to be anything like they were in 1938.

Central and northern California, which usually has satisfactory conditions, are reporting far less than normal and in some instances there is a question as to whether or not bees will make enough to carry them through until another crop year.

Condition of Bees

Universally, the condition of bees is satisfactory this year. We have heard of some spring dwindling and, of course, there is more than the usual amount of necessity for feeding so that the inexperienced beekeeper probably will have some starvation. However, in most instances, dandelion and fruit yields were good, bees had come through earlier in good condition, and have built up. As this is being written, naturally there is plenty of danger of starvation with strong colonies in the interim between the dandelion and locust and the later clover flows. However, most experienced beekeepers will be prepared for this.

We probably find condition of bees the best in the extreme northern sections where usually the winter losses are heavy but where there has been a very favorable winter and spring.

Pennsylvania and Ohio report rather under ordinary conditions and New Mexico and Arizona far under normal.

Condition of Plants

As with the condition of bees, the condition of honey plants generally is at least 100 per cent of 1938 and in many cases, especially in the Dutch white clover sections, much better. The New England states report normal of last year, the southeastern Atlantic coast states above normal, extending down into Florida and Georgia. The southern states are about normal with Louisiana, Texas, Arizona and New Mexico far under normal.

Ohio, Pennsylvania, and some parts of Indiana seem to be the exception to the rule of better conditions for honey plants than last year. Alsike clover particularly has suffered and, in many instances, we learn that the sweet clover acreage is not as heavy as last year with the conditions, however, spotted and some producers reporting prospects better than a year ago.

The one thing which militates against honey plant conditions this year is the almost general complaint about drought conditions from the region west of the Mississippi River. This is especially true in the western half of the Dakotas, Nebraska and Kansas extending down into Oklahoma and encompassing practically all of Texas, as well as New Mexico and Arizona. In addition, we have reports of dry conditions in western Iowa, southern Minnesota. and Arkansas, with a tendency towards dryness even in Michigan, Wisconsin and Minnesota.

Additional complaints are heard of the extreme prevalence of grasshoppers and the dangers which have come about through the indiscriminate scattering, both of poison bait for grasshoppers and of poison dusting by airplanes.

The northwest sections particularly are complaining of poisoning and this, combined with extreme dry conditions up there, would make it look like a question as to whether or not there will be any crop.

The intermountain territory, which earlier looked very favorable, now is not quite so favorable with spotted dry conditions. Montana particularly is complaining.

Taking the country as a whole, the prospects for a honey crop do not look as good as in 1938. However, the favored spots are the Dutch white clover sections along with some of the northern sweet clover sections.

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CARNIOLAN AND CAUCASIAN package bees, queen. June 1st, 2 lb. pkg. $1.65 each; 3 lb. pkg. $2.00 each; untested queens, one 50c; 10 $4.50; 25 $10.00; 100 $37.00 Safe arrival. Tillery Brothers, Rt. 4, Box 132, Greenville, Alabama.

WING'S ITALIAN QUEENS, extra gentle, non-swarming. Less than ten, 50c each; ten or more, 40c each. Instant delivery. J. E. Wing, Cottonwood, California.

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GOLDEN ITALIAN QUEENS, golden to the tip, 50 cents. Loehr's Breeding Farm, Caldwell, Texas.

EMPIRE STATE strain Italian queens. Bred for honey production. 50c each. Coggshall & Son, Groton, N. Y.

LEATHER COLORED ITALIAN QUEENS 50c each. Real queens, real service. Small discount on 25 or more. Diemer Bee Co., Liberty, Missouri.

GOLDEN QUEENS, excellent quality. Will please the honey producer. Untested 50c; tested $1.00. Health certificate. Satisfaction guaranteed. O. E. Brown, Rt. 1, Asheboro, North Carolina.

EXTRA YELLOW Italian queens that produce bees a little more yellow than three-banded; more gentle and just as good workers. Untested 50c each; tested $1.00 each. Health certificate and satisfaction. Hazel V. Bonkemeyer, Randleman, N. C., Route 2.

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GOLDEN ITALIAN QUEENS producing large beautiful bees solid yellow to tip, untested 75 cents; select $1.00. H. C. White Apiaries, Sandia, Texas.

REDUCED PRICES on long-tongued Caucasian Bees and Queens. 2 lb. package with queen $1.65; 3 lb. package with queen $2.00. Queens 40c each; $35 per hundred. Safe arrival and satisfaction guaranteed. P. B. Skinner Bee Co., Greenville, Alabama.

REAL PETS—Brown's Stingless Bees. Good honey gatherers, non-swarmers. Season's price $1 a queen; over 10, 90c each. Brown's Apiary, Cape May Court House, N. J.

3-BANDED ITALIAN Package Bees and Queens. Mansford Plantation, Tallula, Louisiana.

WE ARE CAUCASIAN BEE SPECIALISTS. Write for interesting folder containing prices. CAUCASIAN APIARIES OF CALIFORNIA, RIPON, CALIF.

FOR A GOOD HONEY CROP try our Three-Banded Italians. Alamance Bee Company, Graham, N. C.

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HONEY FOR SALE—We buy and sell all kinds, carloads and less. The John G. Paton Company Inc. 630 Fifth Avenue, New York, N. Y.

FOR SALE—Carload of white clover honey. Reasonable price. George Anderson, Harlem, Montana.

FOR SALE—Extracted clover honey in 60-lb. cans. John Olson, Davis, Illinois.

CHOICE EXTRACTED CLOVER HONEY in 60's. R. C. Bish, Successor to Moore Apiaries, Tiffin, Ohio.

FOR SALE—Finest white clover honey at wholesale prices. Jos. H. Hoehn & Sons, Ottoville, Ohio.

FANCY TUPELO HONEY for sale, barrels and 60's. Marks Tupelo Honey Co., Apalachicola, Florida.

COMB HONEY—Fancy white clover $2.75 per case; fancy mixed or amber or buckwheat $2.00. White clover extracted 6½c; buckwheat 5c; amber 5½c; C. B. Howard, Geneva, N. Y.

HONEY—Clover and buckwheat, extracted. Geo. Sowarby, Cato, N. Y.

REDUCED prices on comb and extracted Write H. G. Quirin, Bellevue, Ohio.

COMPLETE LINE comb and bottled honey. Pure clover. Also packed in 5's and 60's. Central Ohio Apiaries, Inc., Millersport, Ohio.

FOR SALE—Fancy Iowa white clover extracted honey. Kalona Honey Co., Kalona, Iowa.

ORANGE, Palmetto and Mangrove honey in new sixties. Peter W. Sowinski, Fort Pierce, Florida.

FOR SALE—Northern white extracted and comb honey.
M. W. Cousineau, Moorhead, Minn.

HONEY PACKERS—Write us for prices on carload lots of California and Western Honeys. We stock all varieties. HAMILTON & COMPANY, 1360 Produce Street, Los Angeles, California.

WE BUY AND SELL ALL KINDS COMB AND EXTRACTED, CARLOADS AND LESS. H. BLITZ, P. O. BOX 3452, PHILADELPHIA, PA.

CHOICE Michigan Clover Honey. New 60's. David Running, Filion, Michigan.

HONEY FOR SALE—All kinds, any quantity. H. & S. Honey and Wax Company, Inc., 265-267 Greenwich Street, New York.

HOWDY'S HONEY—Fine quality white, clover, also buckwheat and light amber mixed, extracted in new sixties. White, clover Honey Hunks. Howard Potter, Ithaca, Mich.

FOR SALE—Fancy, well ripened, white sweet clover honey in 60-lb. cans. Extra good quality. Dadant & Sons, Hamilton, Ill.

FOR SALE—Honey by the carload. Imperial Valley Beekeepers Association, 847 Heber Avenue, Calexico, California.

HONEY FOR SALE—Any quantity, all varieties. B-Z-B Honey Company, Alhambra, California.

HONEY AND BEESWAX WANTED

WANTED—Car lots or less of extracted honey. Send sample and price delivered to Walter Geiger Co., 325 West Vine Street, Milwaukee, Wisconsin.

ALL GRADES extracted honey wanted. Bee supplies and honey containers for sale. Prairie View Apiaries, 12218 12th Street, Detroit, Michigan.

WANTED—Carlots honey; also beeswax, any quantity. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, California.

WANTED—White and Amber Extracted Honey, any quantity; also beeswax. Write THE FRED W. MUTH CO., Pearl and Walnut Sts., Cincinnati, Ohio.

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100 to 500 colonies bees. Good equipment, good locations, Write L. C. McCarty, 1524 Franklin, Boise, Idaho.

FOR SALE—600 hives of bees, 10 frame double story; also 200 extra supers. A bargain for cash. Ira L. Chrisman, 4842 Tulare Ave., Fresno, Calif.

FOR SALE—2 frame extractor, honey tank, uncapping tank and comb honey supplies. N. R. Needham, Carlton, Minnesota.

200—6 frame nuclei with queens fine for harvesting a good crop in 1939. Free from disease. F. A. Rojina, Excelsior, Minnesota, Telephone 550Y.

25 COLONIES bees in 2 story hives with lots of honey. $5.00 per colony. Rettig Supply Co., Wabash, Ind.

FOR SALE—Several hundred hive bodies bottoms, covers, 8 frame extractor and other equipment. Changing occupation. R. G. Norberg, Rt. 1, Cambridge, Minnesota.

FOR SALE—Eighty colonies bees and equipment cheap. E. G. Carr, Pennington, N. J.

WANTED

WANTED—to hear from owner of farm or unimproved land for sale. WM. HAWLEY, Baldwin, Wisconsin.

SUPPLIES

FOR SALE—We are constantly accumulating bee supplies slightly shopworn; odd sized, surpluses, etc., which we desire to dispose of and on which we can quote you bargain prices. Write for complete list of our bargain material. We can save you money on items you may desire from it. Dadant & Sons, Hamilton, Illinois.

SPECIAL CHUNK HONEY FRAMES with wide end and bottom bars carried in stock. Send 5c for sample and ask for prices on quantity desired. Not listed in 1939 catalog. Walter T. Kelley Co., Paducah, Ky.

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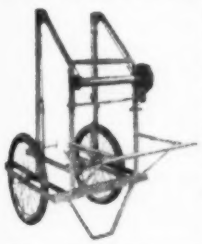

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Good queens, produced by careful men of long experience.
Service that is the best. Plenty of experienced dependable help.

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The Postscript

Newman Lyle, president of the Iowa Beekeepers' Association, tells an interesting story of a surprise honeyflow from willow in April. Some of the strongest colonies were hanging out with every cell of brood combs filled with honey. The weather was dry with several days of still, warm weather.

Strong colonies stored about thirty pounds of white honey with mild flavor, the first time in 23 years that he has secured surplus from this source.

———ABJ———

Willow has long been recognized as a rich source of nectar but in midwest localites it comes too early in spring to permit the bees to get much more than stimulation from it. Usually the weather is too uncertain and colonies are too weak to make substantial gains when willow blooms. In California and British Columbia there are reports of surplus from willow but this is the first to come to my attention in this area.

———ABJ———

According to H. F. Wilson, the Wisconsin State Beekeepers' Association held its first meeting in 1866 and the annual meetings are computed from that year. He has been of the impression that Wisconsin was the first to organize a state association.

It is unfortunate that we do not have more definite information concerning the early history of our state organizations. Any further information as to the oldest beekeeping society will be appreciated.

———ABJ———

From J. D. Gustin, of Springfield, Missouri, comes a clipping of "Hillbilly Heartbeats" by May Kennedy McCord, a column of lively comment on southern doings. This one has to do with the old superstition of "telling the bees" when someone dies.

Bees are described as the most clairvoyant or psychic insects known and are said to sometimes desert their hives upon the death of their owner. To prevent such a departure some member of the family visits the apiary following the funeral and whispers to the occupants of each hive to tell them what has happened, or drapes the hive in black.

———ABJ———

Usually there is some substantial reason for long established superstitions, even though the conclusions may not be logical. In this case it is hard to see how such a custom was ever started. Perhaps some superstitious person of influence in his community observed a case when the bees swarmed out and deserted their hive as sometimes happens. If this occurred at the time of the death of the owner of the bees it would be easy to associate the events. Circumstances must have been such as to make a lasting impression for the custom of "telling the bees" became widespread and generally recognized. In this connection Whittier's poem tells of the custom:

Before them, under the garden wall, forward and back,
  Went drearily singing the chore girl, small,
Draping each hive with a shred of black.
  Trembling, I listened, the summer sun,
Had the chill of snow.
  For I knew she was telling the bees of one
Gone on the journey we all must go.

———ABJ———

The best report of the balsam clover or blue flowered sweet clover, comes from Clarence Farnsworth, of McLeod, Montana, who reports that some of his plants reached a height of three feet. Mine were about half that size. He secured about two pounds of seed from the small sample sent out from this office. He objects to the very strong odor of the plant which is even more pronounced than that of the common sweet clover.

———ABJ———

William W. Alles, of Deeth, Nevada, says that the forage crop situation is serious because of the alfalfa weevil. He asks who will produce a perennial sweet clover with the blooming habits of the yellow variety but hardier.

Correspondence from Canada indicates that the station at Saskatoon, which has done some splendid work with forage crops, is searching for a perennial sweet clover. One is said to grow in Siberia but whether it has the good qualities of other sweet clover no one seems to know.

———ABJ———

A great amount of interest has been manifested in Dr. Park's report of his comparison of the races of bees. Caucasians, Carniolans and Italians were compared for honey production and other qualities at the Iowa Experiment Station. To the surprise of everybody the Carniolans made the best showing.

Those who failed to read the report can secure copies free by writing to Dr. O. W. Park, Ames, Iowa.

———ABJ———

Fifty years ago a world-wide search was under way for new races of bees. There was much discussion of Cyprians, Banats, Syrians and others seldom heard of now. Frank Benton and D. L. Jones made long journeys to the Orient in search of them. An attempt was even made to import the giant bee of India. The net result of all this effort was three races which have stood the test of time and are still appreciated in this country. The Italian race is by far the most popular although both of the others have champions. F. B. Paddock, Iowa state apiarist, has long contended that there is no one best race but that each is best for some particular environment. It seems reasonable that the bee best suited to Florida conditions might not do so well in the cold northern regions.

———ABJ———

Our first swarm this year was on May 13 which is ten days earlier than the first one last year. The bees have had fine stimulation from dandelion and brood rearing has expanded rapidly. They should be in good condition for a honeyflow but, unfortunately, in this neighborhood the extremely dry spring makes the outlook very uncertain for the remainder of the season. It has been so dry that we are having difficulty in getting seeds started in our test plots.

———ABJ———

It happened that there were visitors who were not beekeepers when the swarm came out. They took a lively interest in the hiving of the swarm and asked numerous questions. To see the queen bee is a never failing source of curiosity for most people and many a youngster has left our apiary in a state of excitement because of having looked into the hive to see the queen and the young bees within the cells.

There is no better advertising for a beekeeper than to have a well stocked observation hive on display in some public place. If all beemen were awake to their opportunities in this direction there would be such an exhibit in every town to hold the public interest.

———ABJ———

How many beekeepers know that there is a post office named "Doctor Phillips" in Florida? Sounds like it should be a good place for the beemen to spend the winter.

FRANK PELLETT.